

<b>To:</b>	Damon, Inger K. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0200deb66dbc44f5aca3f26ed15cdc6a-Damon, Inge <iad7@cdc.gov>
<b>Subject:</b>	FW: Advice on CDC Collaborating Center
<b>Date:</b>	2020/09/03 11:59:46
<b>Priority:</b>	Normal
<b>Type:</b>	Note

---

**From:** Kerr, Lawrence (HHS/OS/OGA)  
**Sent:** Thursday, September 3, 2020 11:56 AM  
**To:** Martin, Rebecca (CDC/DDPHSIS/CGH/OD) <rtm4@cdc.gov>; Burr, Mara (HHS/OS/OGA) <Mara.Burr@hhs.gov>; Mciff, Colin (HHS/OS/OGA) <Colin.Mciff@hhs.gov>; Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov>  
**Cc:** Richardson, Juliana (HHS/OS/OGA) <Juliana.Richardson@hhs.gov>; Fernandez, Jose (OS/OGA) <Jose.Fernandez@hhs.gov>  
**Subject:** RE: Advice on CDC Collaborating Center

(b)(5)

What would be our next step?

---

**From:** Martin, Rebecca (CDC/DDPHSIS/CGH/OD) <rtm4@cdc.gov>  
**Sent:** Thursday, September 3, 2020 11:51 AM  
**To:** Burr, Mara (HHS/OS/OGA) <Mara.Burr@hhs.gov>; Kerr, Lawrence (HHS/OS/OGA) <Lawrence.Kerr@hhs.gov>; Mciff, Colin (HHS/OS/OGA) <Colin.Mciff@hhs.gov>; Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov>  
**Cc:** Richardson, Juliana (HHS/OS/OGA) <Juliana.Richardson@hhs.gov>; Fernandez, Jose (OS/OGA) <Jose.Fernandez@hhs.gov>  
**Subject:** RE: Advice on CDC Collaborating Center

Thank you for looping me in on this. (b)(5)

(b)(5)

---

**From:** Burr, Mara (HHS/OS/OGA) <Mara.Burr@hhs.gov>  
**Sent:** Thursday, September 3, 2020 11:47 AM  
**To:** Kerr, Lawrence (HHS/OS/OGA) <Lawrence.Kerr@hhs.gov>; Mciff, Colin (HHS/OS/OGA) <Colin.Mciff@hhs.gov>; Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov>  
**Cc:** Richardson, Juliana (HHS/OS/OGA) <Juliana.Richardson@hhs.gov>; Fernandez, Jose (OS/OGA) <Jose.Fernandez@hhs.gov>; Martin, Rebecca (CDC/DDPHSIS/CGH/OD) <rtm4@cdc.gov>

**Subject:** RE: Advice on CDC Collaborating Center  
**Importance:** High

Colin and Larry:

(b)(5)

Thanks.

Mara

Mara M. Burr, JD, LL.M  
Director, Multilateral Relations  
Office of the Secretary  
Office of Global Affairs  
U.S. Department of Health and Human Services

Telephone: 202-205-4677

Mobile: (b)(6)

---

**From:** Kerr, Lawrence (HHS/OS/OGA) <[Lawrence.Kerr@hhs.gov](mailto:Lawrence.Kerr@hhs.gov)>

**Sent:** Thursday, September 3, 2020 11:35 AM

**To:** Mciff, Colin (HHS/OS/OGA) <[Colin.Mciff@hhs.gov](mailto:Colin.Mciff@hhs.gov)>; Grigsby, Garrett (HHS/OS/OGA) <[Garrett.Grigsby@hhs.gov](mailto:Garrett.Grigsby@hhs.gov)>; Burr, Mara (HHS/OS/OGA) <[Mara.Burr@hhs.gov](mailto:Mara.Burr@hhs.gov)>

**Cc:** Richardson, Juliana (HHS/OS/OGA) <[Juliana.Richardson@hhs.gov](mailto:Juliana.Richardson@hhs.gov)>; Fernandez, Jose (OS/OGA) <[Jose.Fernandez@hhs.gov](mailto:Jose.Fernandez@hhs.gov)>; Martin, Rebecca (CDC/DDPHSIS/CGH/OD) <[rtm4@cdc.gov](mailto:rtm4@cdc.gov)>

**Subject:** RE: Advice on CDC Collaborating Center

(b)(5)

---

**From:** Mciff, Colin (HHS/OS/OGA) <[Colin.Mciff@hhs.gov](mailto:Colin.Mciff@hhs.gov)>



**Sent:** Thursday, September 3, 2020 11:30 AM

**To:** Kerr, Lawrence (HHS/OS/OGA) <[Lawrence.Kerr@hhs.gov](mailto:Lawrence.Kerr@hhs.gov)>; Grigsby, Garrett (HHS/OS/OGA) <[Garrett.Grigsby@hhs.gov](mailto:Garrett.Grigsby@hhs.gov)>; Burr, Mara (HHS/OS/OGA) <[Mara.Burr@hhs.gov](mailto:Mara.Burr@hhs.gov)>

**Cc:** Richardson, Juliana (HHS/OS/OGA) <[Juliana.Richardson@hhs.gov](mailto:Juliana.Richardson@hhs.gov)>; Fernandez, Jose (OS/OGA) <[Jose.Fernandez@hhs.gov](mailto:Jose.Fernandez@hhs.gov)>; Martin, Rebecca (CDC/DDPHSIS/CGH/OD) <[rtm4@cdc.gov](mailto:rtm4@cdc.gov)>

**Subject:** RE: Advice on CDC Collaborating Center

(b)(5)

Best,

Colin

---

**From:** Kerr, Lawrence (HHS/OS/OGA) <[Lawrence.Kerr@hhs.gov](mailto:Lawrence.Kerr@hhs.gov)>

**Sent:** Thursday, September 3, 2020 11:27 AM

**To:** Grigsby, Garrett (HHS/OS/OGA) <[Garrett.Grigsby@hhs.gov](mailto:Garrett.Grigsby@hhs.gov)>; Mciff, Colin (HHS/OS/OGA) <[Colin.Mciff@hhs.gov](mailto:Colin.Mciff@hhs.gov)>; Burr, Mara (HHS/OS/OGA) <[Mara.Burr@hhs.gov](mailto:Mara.Burr@hhs.gov)>

**Cc:** Richardson, Juliana (HHS/OS/OGA) <[Juliana.Richardson@hhs.gov](mailto:Juliana.Richardson@hhs.gov)>; Fernandez, Jose (OS/OGA) <[Jose.Fernandez@hhs.gov](mailto:Jose.Fernandez@hhs.gov)>

**Subject:** Advice on CDC Collaborating Center

Garrett,

(b)(5)

Thank you,

Larry

<b>Recipient:</b>	Damon, Inger K. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0200deb66dbc44f5aca3f26ed15cdc6a-Damon, Inge <iad7@cdc.gov>
<b>Sent Date:</b>	2020/09/03 12:00:16
<b>Delivered Date:</b>	2020/09/03 11:59:46
<b>Message Flags:</b>	Unsent

<b>From:</b>	Boucher, David (OS/ASPR/BARDA) /o=EXCHANGELABS/ou=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/cn=RECIPIENTS/cn=41293945651D475FA0413062A819AAC5-BOUCHER, DA <David.Boucher@hhs.gov>
<b>To:</b>	<p>Boucher, David (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=41293945651d475fa0413062a819aac5-Boucher, Da &lt;David.Boucher@hhs.gov&gt;;</p> <p>Zarrabian, Amanda (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0c650b07917242129deb0f942bb4cc10-Zarrabian, &lt;amanda.zarrabian@hhs.gov&gt;;</p> <p>Ayala, Ana (OS/ASPR/SPPR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=80a408be55b14221a42c2b91002d6bf7-Ayala, Ana &lt;Ana.Ayala@hhs.gov&gt;;</p> <p>Biggins, Julia E CTR (USA) &lt;julia.e.biggins.ctr@mail.mil&gt;;</p> <p>Birnkrant, Debra B (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=57a9d96c3a884fc0808702ed5d3a7b4c-debra.birnk &lt;Debra.Birnkrant@fda.hhs.gov&gt;;</p> <p>Carter, Rosalind J. (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f16dc874b53240f7a323b1246027e71c-rosalind.ca &lt;rdc6@cdc.gov&gt;;</p> <p>Chandrasekera, Ruvani (OS/ASPR/SPPR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=678d9ff8e02d477ab5d0516bd3659a34-Chandraseke &lt;Ruvani.Chandrasekera@hhs.gov&gt;;</p> <p>Cho, David S (CBER) (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d79853f418ac488c9cd10b70d1e2b0f1-david.cho.f &lt;David.Cho@fda.hhs.gov&gt;;</p> <p>Cossaboom, Caitlin (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2063b181b77a49a4b498ee8b7afa7478-caitlin.cos &lt;nrm9@cdc.gov&gt;;</p> <p>Wolfe, Daniel (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=01933911e406492fbd7f86e0235944d7-Wolfe, Dani &lt;Daniel.Wolfe2@hhs.gov&gt;;</p> <p>Deussing, Eric (CDC/OD/OCS) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d0e1290339b14ad6844f56b40d0c6661-eric.deussi &lt;ncu0@cdc.gov&gt;;</p> <p>Diaz-Diaz, Carol (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3b2b5f0685df417b9e2a0018c6fd251f-Diaz-Diaz, &lt;Carol.Diaz-diaz@hhs.gov&gt;;</p> <p>Disbrow, Gary (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0fd5845defda4dc0bb45f8fac629cf09-Disbrow, Ga &lt;Gary.Disbrow@hhs.gov&gt;;</p> <p>Higgs, Elizabeth (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ce3e542539154ce59df4bedbc8741ebf-elizabeth.h &lt;ehiggs@niaid.nih.gov&gt;;</p> <p>Fitter, David L. (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=fbd8cb8b5f054c98a5d907ce4a8f2bde-david.fitte &lt;vid3@cdc.gov&gt;;</p> <p>Gentles, Andrew (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=cd01d5eb6d814cbcb9d6547155eb7596-andrew.gent &lt;Andrew.Gentles@fda.hhs.gov&gt;;</p> <p>Poley, Gerald (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1652fb2d5ebc405db14139a73d364c23-gerald.pole &lt;Gerald.Poley@fda.hhs.gov&gt;;</p> <p>Hassell, David (Chris) (OS/ASPR/IO) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=aedbfb0ff96e4119ac7a3b3abaf71a3d-Hassell, Da &lt;David.Hassell@hhs.gov&gt;;</p> <p>Schiltz, Helen (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=89f2008d8dd04f5ea7695f37929f6df7-helen.schil &lt;hschiltz@niaid.nih.gov&gt;;</p> <p>Marston, Hilary (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=93be476c17024bbcbcb5b44add01fe6a8-hilary.mars &lt;hilary.marston@nih.gov&gt;;</p> <p>Hughes, Craig (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a4ade4d09cb444bb995d03c84d1f0746-Hughes, Cra &lt;Craig.Hughes@hhs.gov&gt;;</p> <p>Damon, Inger K. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0200deb66dbc44f5aca3f26ed15cdc6a-Damon, Inge</p>

<iad7@cdc.gov>;  
 Inger-Marie Vilcins (ivilcins@hivresearch.org) <ivilcins@hivresearch.org>;  
 Walldorf, Jenny A. (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e2813aaef1f94f96bb247826243e3811-jenny.wall  
 <igf4@cdc.gov>;  
 Kahn, Emily B. (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ff8628c4e15948b3b03805d50c3d0eee-Kahn, Emily  
 <ebk9@cdc.gov>;  
 Bok, Karin (NIH/VRC) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6d1dc469e6684003a0a89b132e8b7916-karin.bok.n  
 <karin.bok@nih.gov>;  
 Kayvon Modjarrad <kmodjarrad@hivresearch.org>;  
 Kishimori, Jennifer M COL USARMY OSD OUSD P-R (US) (jennifer.m.kishimori.mil@mail.mil)  
 <jennifer.m.kishimori.mil@mail.mil>;  
 Kerr, Lawrence (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8ce9de2e7497472bb758f8fd6e262c86-Kerr, Lawre  
 <Lawrence.Kerr@hhs.gov>;  
 Ledgerwood, Julie (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=45778324d47644eeb9fced6acbf5108f-julie.marti  
 <jumartin@niaid.nih.gov>;  
 Madock, Christa M CIV USARMY MEDCOM USAMMDA (US) <christa.m.madock.civ@mail.mil>;  
 Marinissen, Maria (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5d42fb4d94b041ee88e4f7dd5743e893-Marinissen,  
 <Maria.Marinissen@hhs.gov>;  
 Gruber, Marion (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub  
 <Marion.Gruber@fda.hhs.gov>;  
 Marks, Peter (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=df56588b970c43c8a9a2b9b31406746c-peter.marks  
 <Peter.Marks@fda.hhs.gov>;  
 Meltzer, Martin I. (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7d4e5aa77412403b9ae866e4c8312e79-Meltzer, Ma  
 <qzm4@cdc.gov>;  
 Choi, Mary Joung (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c9f8d54090194cf7be8e49b80bca7328-mary.choi.c  
 <whz2@cdc.gov>;  
 Merchlinsky, Michael (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=29a4736917274e3783b5570c29518cdf-Merchlinsky  
 <Michael.Merchlinsky@hhs.gov>;  
 Mair, Michael (FDA/OC) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f3e2b23223bc4a1abecf698a4122f6c3-michael.mai  
 <Michael.Mair@fda.hhs.gov>;  
 Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=62643d5586b14f1798171ce903c12ea4-Montgomery,  
 <ztq9@cdc.gov>;  
 Moudy, Robin (OS/ASPR/SPPR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d421d3e0f6474bc3857583cfc5870d69-Moudy, Robi  
 <Robin.Moudy@hhs.gov>;  
 Nelson Michael <nmichael@hivresearch.org>;  
 Bryant, Paula (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b4fe56a126fc4da2a4a187dece3928e2-paula.bryan  
 <paula.bryant@nih.gov>;  
 Pawlicki, Nathan J CTR DHA MED COUNTERMEASURES (US) (nathan.j.pawlicki.ctr@mail.mil)  
 <nathan.j.pawlicki.ctr@mail.mil>;  
 Krause, Philip (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau  
 <Philip.Krause@fda.hhs.gov>;  
 Arthur, Ray (CDC/DDPHSIS/CGH/DGHP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=855f8ca30adc4a59906fd6647ac8371d-Arthur, Ray  
 <rca8@cdc.gov>;  
 Helfand, Rita (CDC/DDID/NCEZID/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=28a17ce03de24abbb3e9c9e1363c4017-Helfand, Ri  
 <rzh7@cdc.gov>;  
 Sabourin, Carol (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=46ae47e8f4b34a6e9d2804b44e192651-Sabourin, C  
 <Carol.Sabourin@hhs.gov>;

	<p>Samuel, Anita (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9238fa3a950b4c118cad476c0ef01c40-anita.samue &lt;kyp8@cdc.gov&gt;;</p> <p>Simon, David (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a7d46815edf04bb28ac3ea25ff3d3268-Simon, Davi &lt;David.Simon@hhs.gov&gt;;</p> <p>Styrt, Barbara (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=fd3d53d2e3994f678050e141d6a0b9db-barbara.sty &lt;Barbara.Styrt@fda.hhs.gov&gt;;</p> <p>Suzanne Mate &lt;suzanne.e.mate.mil@mail.mil&gt;;</p> <p>Taylor, Kimberly (NIH/NIAID) [E] &lt;kimberly.taylor3@nih.gov&gt;;</p> <p>Taylor, Marva (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=34ad843b32e14d9fb5e825646336d169-Taylor, Mar &lt;Marva.Taylor@hhs.gov&gt;;</p> <p>Hyde, Terri (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=653839b51d4442a7b5ad95e605761104-Hyde, Terri &lt;tkh4@cdc.gov&gt;;</p> <p>Thompson, Elizabeth (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ebdef60dc3794a8db0daf295649d05f0-elizabeth.t &lt;Elizabeth.Thompson@fda.hhs.gov&gt;;</p> <p>Turley, Danielle (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=befe52d068424520bd5f5eddb942ff4d-Turley, Dan &lt;Danielle.Turley@hhs.gov&gt;;</p> <p>Walke, Henry (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a4fecdd678cea4ee7a1436ed6ec669c27-Walke, Henr &lt;hfw3@cdc.gov&gt;;</p> <p>Walker, Robert (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7a02e128c60f4a7195532a1545af9556-Walker, Rob &lt;Robert.Walker@hhs.gov&gt;;</p> <p>Weinberger, Collin (OS/OGA) (CTR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=641554fc7843407585827af5898d9c26-Weinberger, &lt;Collin.Weinberger@hhs.gov&gt;;</p> <p>Yu, Yon C. (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=bbdd97c36ce040d8adc6dc54932741bd-Yu, Yon C. &lt;fkb8@cdc.gov&gt;;</p> <p>Murray, Jeffrey S (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=85e81cda2e9b4c3f943c5b1ecd82b01-jeffrey.mur &lt;Jeffrey.Murray@fda.hhs.gov&gt;;</p> <p>Tsai, Chia-Wei CTR USARMY MEDCOM USAMMDA (USA) (chia-wei.tsai.ctr@mail.mil) &lt;chia-wei.tsai.ctr@mail.mil&gt;;</p> <p>Redd, John (OS/ASPR/SPPR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9ba3fed4ee8646ec849a5a87136a24f6-Redd, John &lt;John.Redd@hhs.gov&gt;</p>
<b>CC:</b>	Kayvon Modjarrad <kmodjarrad@eidresearch.org>
<b>Subject:</b>	Ebola MCM Scientific Working Group
<b>Date:</b>	2019/10/29 11:36:38
<b>Start Date:</b>	2019/11/05 10:30:00
<b>End Date:</b>	2019/11/05 12:00:00
<b>Priority:</b>	Normal
<b>Type:</b>	Appointment
<b>Location:</b>	Teleconference
<b>Attendees:</b>	<p>Amanda Zarrabian (OS/ASPR/BARDA) (amanda.zarrabian@hhs.gov); Ayala, Ana (OS/ASPR/SPPR); Biggins, Julia E CTR (USA); Birnkrant, Debra B (FDA/CDER); Carter, Rosalind J. (CDC/DDPHSIS/CGH/GID) (rdc6@cdc.gov); Chandrasekera, Ruvani (OS/ASPR/SPPR); Cho, David S (CDER) (FDA/CDER); Cossaboom, Caitlin (CDC/DDID/NCEZID/DHCPP); Daniel Wolfe (OS/ASPR/BARDA) (Daniel.Wolfe2@hhs.gov); Deussing, Eric (CDC/OD/OCS); Diaz-Diaz, Carol (OS/ASPR/BARDA); Disbrow, Gary (OS/ASPR/BARDA); Elizabeth (NIH/NIAID) Higgs [E] (ehiggs@niaid.nih.gov); Fitter, David L. (CDC/DDPHSIS/CGH/GID); Gentles, Andrew (FDA/CDER); Gerald Poley (FDA/CDER) (Gerald.Poley@fda.hhs.gov); Hassell, David (Chris) (OS/ASPR/IO); Helen Schiltz (helen.schiltz@nih.gov); Hilary (NIH/NIAID) Marston [E] (hilary.marston@nih.gov); Hughes, Craig (OS/ASPR/BARDA); Inger K. Damon (CDC/DDID/NCEZID/DHCPP) (iad7@cdc.gov); Inger-Marie Vilcins (ivilcins@hivresearch.org); Jenny A. Walldorf (CDC/DDPHSIS/CGH/GID) (igf4@cdc.gov); Kahn, Emily B.</p>

	(CDC/DDID/NCEZID/DPEI); Karin (NIH/VRC) Bok [E] (karin.bok@nih.gov); Kayvon Modjarrad; Kishimori, Jennifer M COL USARMY OSD OUSD P-R (US) (jennifer.m.kishimori.mil@mail.mil); Lawrence Kerr (HHS/OS/OGA) (Lawrence.Kerr@hhs.gov); Ledgerwood, Julie (NIH/NIAID) [E]; Madock, Christa M CIV USARMY MEDCOM USAMMDA (US); Marinissen, Maria (HHS/OS/OGA); Marion Gruber (FDA/CBER) (Marion.Gruber@fda.hhs.gov); Marks, Peter (FDA/CBER); Martin I. Meltzer (CDC/DDID/NCEZID/DPEI) (qzm4@cdc.gov); Mary Joung Choi (CDC/DDID/NCEZID/DHCPP) (whz2@cdc.gov); Merchlinsky, Michael (OS/ASPR/BARDA); Michael Mair (FDA/OC) (Michael.Mair@fda.hhs.gov); Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP); Moudy, Robin (OS/ASPR/SPPR); Nelson Michael; Paula (NIH/NIAID) Bryant [E] (paula.bryant@nih.gov); Pawlicki, Nathan J CTR DHA MED COUNTERMEASURES (US) (nathan.j.pawlicki.ctr@mail.mil); Philip Krause (FDA/CBER) (Philip.Krause@fda.hhs.gov); Ray Arthur (CDC/DDPHSIS/CGH/DGHP) (rca8@cdc.gov); Rita Helfand (CDC/DDID/NCEZID/OD) (rzh7@cdc.gov); Sabourin, Carol (OS/ASPR/BARDA); Samuel, Anita (CDC/DDPHSIS/CGH/GID); Simon, David (OS/ASPR/BARDA); Styrt, Barbara (FDA/CDER); Suzanne Mate; Taylor, Kimberly (NIH/NIAID) [E]; Taylor, Marva (OS/ASPR/BARDA); Terri Hyde (CDC/DDPHSIS/CGH/GID) (tkh4@cdc.gov); Thompson, Elizabeth (FDA/CDER); Turley, Danielle (OS/ASPR/BARDA); Walke, Henry (CDC/DDID/NCEZID/DPEI); Walker, Robert (OS/ASPR/BARDA); Weinberger, Collin (OS/OGA) (CTR); Yu, Yon C. (CDC/DDID/NCEZID/DPEI); Murray, Jeffrey S; Tsai, Chia-Wei CTR USARMY MEDCOM USAMMDA (USA) (chia-wei.tsai.ctr@mail.mil); Redd, John (OS/ASPR/SPPR); Kayvon Modjarrad
--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

This is an off-week meeting to discuss a potential USG recommendation for geographic vaccination in DRC.

Dial in (b)(6)  
Access code (b)(6)

<b>Sender:</b>	Boucher, David (OS/ASPR/BARDA) /O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=41293945651D475FA0413062A819AAC5-BOUCHER, DA <David.Boucher@hhs.gov>
<b>Recipient:</b>	<p>Boucher, David (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=41293945651d475fa0413062a819aac5-Boucher, Da &lt;David.Boucher@hhs.gov&gt;;</p> <p>Zarrabian, Amanda (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0c650b07917242129deb0f942bb4cc10-Zarrabian, &lt;amanda.zarrabian@hhs.gov&gt;;</p> <p>Ayala, Ana (OS/ASPR/SPPR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=80a408be55b14221a42c2b91002d6bf7-Ayala, Ana &lt;Ana.Ayala@hhs.gov&gt;;</p> <p>Biggins, Julia E CTR (USA) &lt;julia.e.biggins.ctr@mail.mil&gt;;</p> <p>Birnkrant, Debra B (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=57a9d96c3a884fc0808702ed5d3a7b4c-debra.birnk &lt;Debra.Birnkrant@fda.hhs.gov&gt;;</p> <p>Carter, Rosalind J. (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f16dc874b53240f7a323b1246027e71c-rosalind.ca &lt;rdc6@cdc.gov&gt;;</p> <p>Chandrasekera, Ruvani (OS/ASPR/SPPR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=678d9ff8e02d477ab5d0516bd3659a34-Chandraseke &lt;Ruvani.Chandrasekera@hhs.gov&gt;;</p> <p>Cho, David S (CBER) (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d79853f418ac488c9cd10b70d1e2b0f1-david.cho.f &lt;David.Cho@fda.hhs.gov&gt;;</p> <p>Cossaboom, Caitlin (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2063b181b77a49a4b498ee8b7afa7478-caitlin.cos &lt;nrm9@cdc.gov&gt;;</p> <p>Wolfe, Daniel (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=01933911e406492fbd7f86e0235944d7-Wolfe, Dani &lt;Daniel.Wolfe2@hhs.gov&gt;;</p> <p>Deussing, Eric (CDC/OD/OCS) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d0e1290339b14ad6844f56b40d0c6661-eric.deussi &lt;ncu0@cdc.gov&gt;;</p> <p>Diaz-Diaz, Carol (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3b2b5f0685df417b9e2a0018c6fd251f-Diaz-Diaz, &lt;Carol.Diaz-</p>

diaz@hhs.gov>;  
 Disbrow, Gary (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0fd5845defda4dc0bb45f8fac629cf09-Disbrow, Ga <Gary.Disbrow@hhs.gov>;  
 Higgs, Elizabeth (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ce3e542539154ce59df4bedbc8741ebf-elizabeth.h <ehiggs@niaid.nih.gov>;  
 Fitter, David L. (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=fbd8cb8b5f054c98a5d907ce4a8f2bde-david.fitte <vid3@cdc.gov>;  
 Gentles, Andrew (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=cd01d5eb6d814cbcb9d6547155eb7596-andrew.gent <Andrew.Gentles@fda.hhs.gov>;  
 Poley, Gerald (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1652fb2d5ebc405db14139a73d364c23-gerald.pole <Gerald.Poley@fda.hhs.gov>;  
 Hassell, David (Chris) (OS/ASPR/IO) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=aedbf0ff96e4119ac7a3b3abaf71a3d-Hassell, Da <David.Hassell@hhs.gov>;  
 Schiltz, Helen (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=89f2008d8dd04f5ea7695f37929f6df7-helen.schil <hschiltz@niaid.nih.gov>;  
 Marston, Hilary (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=93be476c17024bbcb5b44add01fe6a8-hilary.mars <hilary.marston@nih.gov>;  
 Hughes, Craig (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a4ade4d09cb444bb995d03c84d1f0746-Hughes, Cra <Craig.Hughes@hhs.gov>;  
 Damon, Inger K. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0200deb66dbc44f5aca3f26ed15cdc6a-Damon, Inge <iad7@cdc.gov>;  
 Inger-Marie Vilcins (ivilcins@hivresearch.org) <ivilcins@hivresearch.org>;  
 Walldorf, Jenny A. (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e2813aaef1f94f96bb247826243e3811-jenny.wall <igf4@cdc.gov>;  
 Kahn, Emily B. (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ff8628c4e15948b3b03805d50c3d0eee-Kahn, Emily <ebk9@cdc.gov>;  
 Bok, Karin (NIH/VRC) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6d1dc469e6684003a0a89b132e8b7916-karin.bok.n <karin.bok@nih.gov>;  
 Kayvon Modjarrad <kmodjarrad@hivresearch.org>;  
 Kishimori, Jennifer M COL USARMY OSD OUSD P-R (US) (jennifer.m.kishimori.mil@mail.mil) <jennifer.m.kishimori.mil@mail.mil>;  
 Kerr, Lawrence (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8ce9de2e7497472bb758f8fd6e262c86-Kerr, Lawre <Lawrence.Kerr@hhs.gov>;  
 Ledgerwood, Julie (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=45778324d47644eeb9fced6acbf5108f-julie.marti <jumartin@niaid.nih.gov>;  
 Madock, Christa M CIV USARMY MEDCOM USAMMDA (US) <christa.m.madock.civ@mail.mil>;  
 Marinissen, Maria (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5d42fb4d94b041ee88e4f7dd5743e893-Marinissen, <Maria.Marinissen@hhs.gov>;  
 Gruber, Marion (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub <Marion.Gruber@fda.hhs.gov>;  
 Marks, Peter (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=df56588b970c43c8a9a2b9b31406746c-peter.marks <Peter.Marks@fda.hhs.gov>;  
 Meltzer, Martin I. (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7d4e5aa77412403b9ae866e4c8312e79-Meltzer, Ma <qzm4@cdc.gov>;  
 Choi, Mary Joung (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c9f8d54090194cf7be8e49b80bca7328-mary.choi.c <whz2@cdc.gov>;

Merchlinsky, Michael (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=29a4736917274e3783b5570c29518cdf-Merchlinsky <Michael.Merchlinsky@hhs.gov>;

Mair, Michael (FDA/OC) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f3e2b23223bc4a1abecf698a4122f6c3-michael.mai <Michael.Mair@fda.hhs.gov>;

Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=62643d5586b14f1798171ce903c12ea4-Montgomery, <ztq9@cdc.gov>;

Moudy, Robin (OS/ASPR/SPPR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d421d3e0f6474bc3857583cfc5870d69-Moudy, Robi <Robin.Moudy@hhs.gov>;

Nelson Michael <nmichael@hivresearch.org>;

Bryant, Paula (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b4fe56a126fc4da2a4a187dece3928e2-paula.bryan <paula.bryant@nih.gov>;

Pawlicki, Nathan J CTR DHA MED COUNTERMEASURES (US) (nathan.j.pawlicki.ctr@mail.mil) <nathan.j.pawlicki.ctr@mail.mil>;

Krause, Philip (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau <Philip.Krause@fda.hhs.gov>;

Arthur, Ray (CDC/DDPHSIS/CGH/DGHP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=855f8ca30adc4a59906fd6647ac8371d-Arthur, Ray <rca8@cdc.gov>;

Helfand, Rita (CDC/DDID/NCEZID/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=28a17ce03de24abbb3e9c9e1363c4017-Helfand, Ri <rzh7@cdc.gov>;

Sabourin, Carol (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=46ae47e8f4b34a6e9d2804b44e192651-Sabourin, C <Carol.Sabourin@hhs.gov>;

Samuel, Anita (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9238fa3a950b4c118cad476c0ef01c40-anita.samue <kyp8@cdc.gov>;

Simon, David (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a7d46815edf04bb28ac3ea25ff3d3268-Simon, Davi <David.Simon@hhs.gov>;

Styrt, Barbara (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=fd3d53d2e3994f678050e141d6a0b9db-barbara.sty <Barbara.Styrt@fda.hhs.gov>;

Suzanne Mate <suzanne.e.mate.mil@mail.mil>;

Taylor, Kimberly (NIH/NIAID) [E] <kimberly.taylor3@nih.gov>;

Taylor, Marva (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=34ad843b32e14d9fb5e825646336d169-Taylor, Mar <Marva.Taylor@hhs.gov>;

Hyde, Terri (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=653839b51d4442a7b5ad95e605761104-Hyde, Terri <tkh4@cdc.gov>;

Thompson, Elizabeth (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ebdef60dc3794a8db0daf295649d05f0-elizabeth.t <Elizabeth.Thompson@fda.hhs.gov>;

Turley, Danielle (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=befe52d068424520bd5f5eddb942ff4d-Turley, Dan <Danielle.Turley@hhs.gov>;

Walke, Henry (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a4fec678cea4ee7a1436ed6ec669c27-Walke, Henr <hfw3@cdc.gov>;

Walker, Robert (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7a02e128c60f4a7195532a1545af9556-Walker, Rob <Robert.Walker@hhs.gov>;

Weinberger, Collin (OS/OGA) (CTR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=641554fc7843407585827af5898d9c26-Weinberger, <Collin.Weinberger@hhs.gov>;

Yu, Yon C. (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=bbdd97c36ce040d8adc6dc54932741bd-Yu, Yon C. <fkb8@cdc.gov>;

Murray, Jeffrey S (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group



(FYDIBOHF23SPDLT)/cn=Recipients/cn=85e81cda2e9b4c3f943c5b1ecdd82b01-jeffrey.mur  
<Jeffrey.Murray@fda.hhs.gov>;  
Tsai, Chia-Wei CTR USARMY MEDCOM USAMMDA (USA) (chia-wei.tsai.ctr@mail.mil) <chia-wei.tsai.ctr@mail.mil>;  
Redd, John (OS/ASPR/SPPR) /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=9ba3fed4ee8646ec849a5a87136a24f6-Redd, John  
<John.Redd@hhs.gov>;  
Kayvon Modjarrad <kmodjarrad@eidresearch.org>

**Sent Date:** 2019/10/29 11:36:38

# ESTIMATING THE NUMBER OF EBOLA CASES AND PROPORTION OF CASES IN EFFECTIVE ISOLATION, THE DEMOCRATIC REPUBLIC OF CONGO, 2018-2019

## Ebola Case Projection Memo V3.20

### Contents

BOTTOM LINE SUMMARY/SUMMARY OF RESULTS .....	1
MAIN TABLES AND FIGURES .....	2
IMPORTANT CAVEATS .....	3
EXPANDED RESULTS .....	3
ACCURACY .....	4
SENSITIVITY ANALYSIS .....	4
METHODS .....	4
LIMITATIONS .....	5
APPENDIX 1: EbolaResponse tool: Methods and Assumptions .....	6
APPENDIX 2: Accuracy of Model Estimates .....	10
APPENDIX 3: Log of recent changes to previous memo versions .....	13

**Background:** On 1 August 2018, the Ministry of Health of the DRC declared a new outbreak of Ebola. As of 22 October 2019, 3,243 Ebola probable and confirmed cases have been reported by the WHO<sup>1</sup>, of whom 2,169 (67%) have died. To prevent onward transmission and perpetuation of the outbreak, it is critical to identify cases early so that they may be effectively isolated<sup>2</sup>, either by placement in an Ebola Treatment Unit and/or through effective vaccination of their contacts and contacts-of-contacts, to prevent onward transmission. Additionally, early treatment likely increases the chance of survival.

#### Questions/Objectives:

- What is the effectiveness of current intervention efforts, measured as the proportion of identified cases that are currently being identified and effectively isolated, either by placement in an Ebola Treatment Unit and/or by effective vaccination of their contacts and contacts-of-contacts, to prevent onward transmission?
- What is the potential impact of a hypothetical increase in cases effectively isolated on the likelihood of onward transmission?

**Date: 23 October 2019**

Authors: Centers for Disease Control and Prevention (CDC): Bishwa Adhikari, Brad Greening, Evin Jacobson, Seonghye Jeon, Emily Kahn, Gloria Kang, Martin Meltzer, Health Economics and Modeling Unit (HEMU/DPEI); James Fuller (CGH/DGHP)

<sup>1</sup> WHO Ebola Health update – DRC 2019 – Ebola daily case numbers – 22 October 2019

(<https://www.who.int/emergencies/diseases/ebola/drc-2019/>)

<sup>2</sup> Effective isolation means preventing onward transmission of Ebola by ensuring that a patient is either physically isolated and / or their contacts are protected from infection. In addition, effective isolation can include minimizing the number of treatment facilities per case; vaccination of health care workers, frontline workers and community members, as well as Safe and Dignified Burials when needed.

**RED FLAG ALERT:** Based on the most recent data provided, we currently estimate that 65% of cases are effectively isolated, the same as estimated in the previous memo (9 October 2019). Assuming no changes, the epidemic is now projected to end by 5 May 2020 with 3,410 total cases. Other outbreak indicators (Table 2) have remained constant or shown slight signs of worsening, indicating that the situation has not notably changed over the last four weeks. Given the unknown degree of under-reporting of cases, any estimates of improvements should be interpreted with caution. To bring a rapid end to the outbreak, the proportion of cases in effective isolation (ideally within 3 days of symptom onset) will need to reach (and be sustained at) approximately 70%.

## BOTTOM LINE SUMMARY/SUMMARY OF RESULTS

### BASE ANALYSIS

- **Percent not effectively isolated:** Based on 3,250 total cases reported as of 22 October 2019, approximately 35% of cases are not being effectively identified and isolated (i.e., 65% are effectively isolated) to prevent transmission of illness to others (see Table 1).
- **Projected number of cases:** Assuming that the proportion of Ebola cases not effectively isolated remains unchanged at 35% (Table 1), there will be an estimated cumulative total of 3,409 reported cases by 23 April 2020 (Figure 1a).
- Projections indicate that if the proportion of cases not effectively isolated remains at 35% (i.e., 65% effectively isolated), the number of new cases each week will decline slowly from now (early October 2019) through the end of April 2020, at which time there will be approximately 1 new case each week (Figure 1b). Assuming no changes, the epidemic would then end by 5 May 2020 with 3,410 total cases.

### SENSITIVITY ANALYSIS

- The projected number of future cases is sensitive to the proportion of cases that are effectively isolated.
  - If the proportion of cases that are being effectively isolated is decreased from 65% to 55% (i.e., 45% not effectively isolated), by 23 April 2020 there will be an estimated cumulative total of 3,653 Ebola cases, with 7 new cases per week (Figure 1b). In this scenario, the outbreak continues beyond September 2020.
  - If the proportion of cases that are effectively isolated is raised from 65% to 75% (i.e., 25% not effectively isolated), the outbreak effectively ends by 4 February 2020 with a total of 3,329 total cases.
- **Illustration: If the proportion of cases effectively isolated gradually improves:** An illustration of the potential impact of improved effectiveness of interventions was constructed by assuming the following: The proportion of Ebola cases effectively isolated is set at 65% (i.e., 35% not effectively isolated, Table 1) through 26 September 2019 and remains at 65% effectively isolated (35% not) during 27 September – 26 October 2019. Then, 70% of cases are effectively isolated (30% not) from 27 October – 25 December 2019; and 95% of cases are effectively isolated (5% not) from 26 December 2019 onward. Under those assumptions, the outbreak will end by 18 January 2020 (i.e., isolation of last case) with an estimated cumulative case count of 3,376 cases (Figure 1a).

## MAIN TABLES AND FIGURES

**Table 1. The estimated proportion of Ebola cases that are not effectively isolated, January 2019 - present<sup>††</sup>**

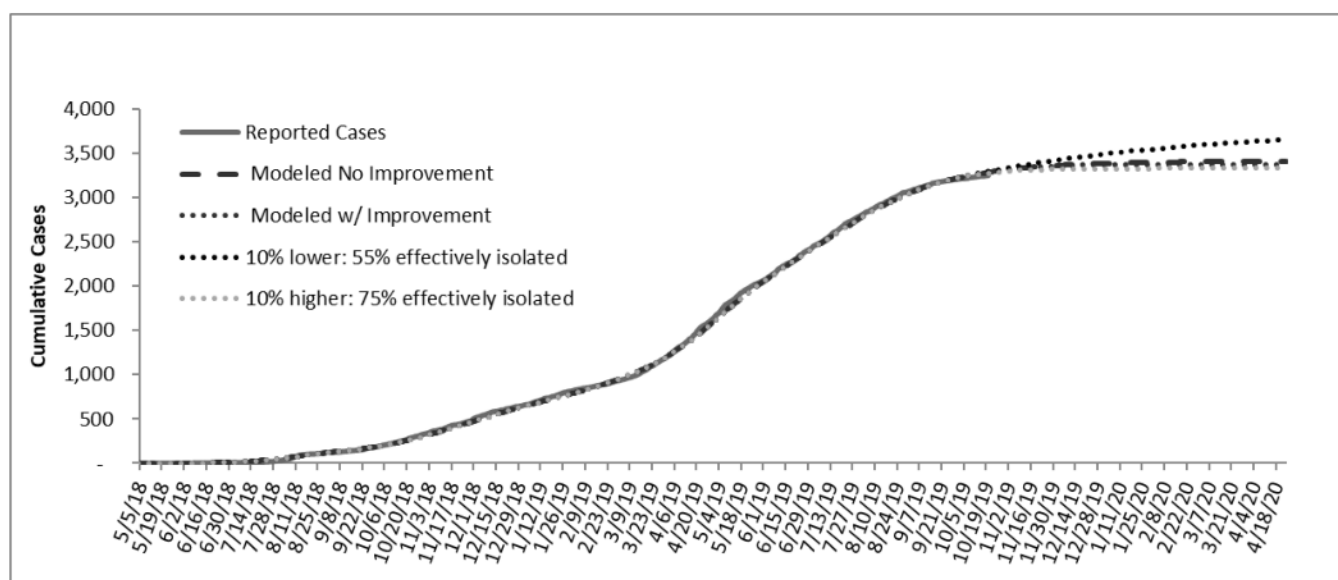
Outbreak Days	Dates	Proportion of cases <u>not</u> effectively isolated
<b>241-270</b>	31 Dec 2018 – 29 Jan 2019	50%
<b>271-300</b>	30 Jan – 28 Feb 2019	62%
<b>301-330</b>	1 Mar – 30 Mar 2019	67%
<b>331-360</b>	31 Mar – 29 Apr 2019	60%
<b>361-390</b>	30 Apr – 29 May 2019	43%
<b>391-420</b>	30 May – 28 June 2019	50%
<b>421-450</b>	29 June – 28 July 2019	48%
<b>451-480</b>	29 July – 27 Aug 2019	41%
<b>481-510</b>	28 Aug – 26 Sep 2019	35%
<b>Estimating cases forward assuming NO change in percent cases <u>not</u> effectively isolated</b>		
<b>511-720*</b>	27 Sep 2019 – 23 Apr 2020	35%
<b>Estimating cases forward assuming DECREASES in percent cases <u>not</u> effectively isolated</b>		
<b>511-540</b>	27 Sep – 26 Oct 2019	35%
<b>541-570</b>	27 Oct – 25 Nov 2019	30%
<b>571-600</b>	26 Nov – 25 Dec 2019	30%
<b>601-720</b>	26 Dec 2019 – 23 Apr 2020	5%

<sup>†</sup>These estimates were produced by fitting modeled data to reported case counts as described in methods below and in Appendix 1.

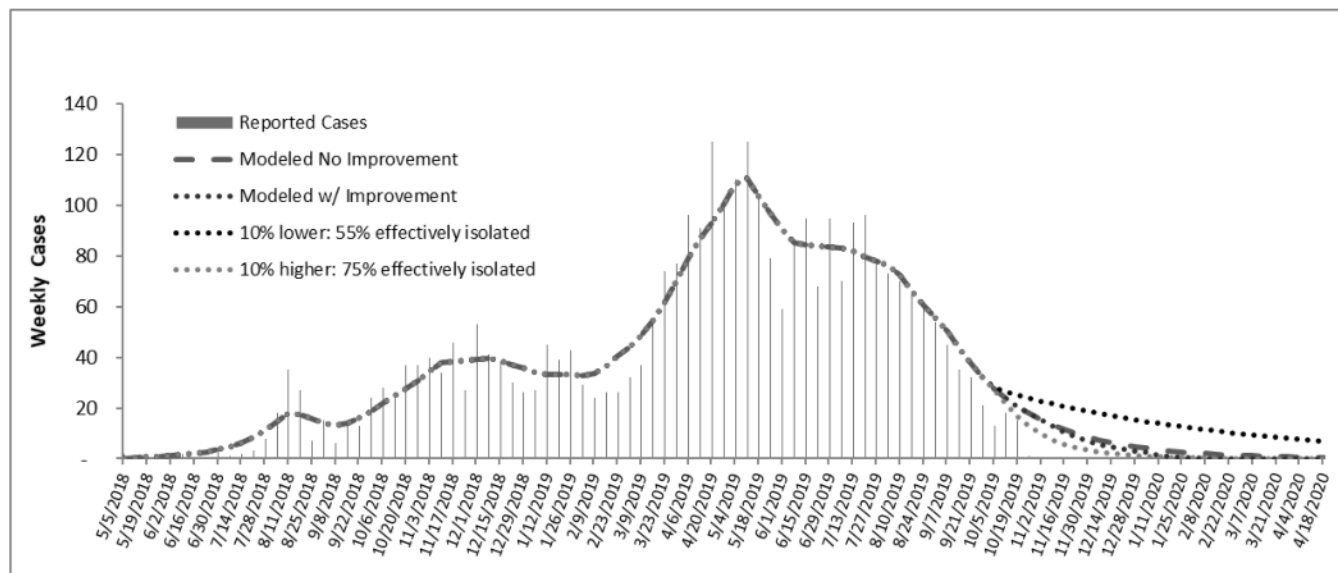
<sup>††</sup>The proportion of cases not effectively isolated for earlier time periods are listed in Appendix Table A4.1.

<sup>\*</sup>This assumes that no changes in the proportion of Ebola cases effectively isolated occurs after the date through which data have been provided.

**Figure 1a. Projected cumulative number of Ebola cases through 18 April 2020, with\* and without\*\* improvements in the proportion of cases effectively isolated (based on case reports as of 22 October 2019), base and sensitivity\*\*\* analysis – all reported cases<sup>†</sup>**



**Figure 1b. Projected weekly number of Ebola cases through 18 April 2020, with\* and without\*\* improvements in the proportion of cases effectively isolated (based on case reports as of 22 October 2019), base and sensitivity\*\*\* analysis – all reported cases<sup>¶</sup>**



\*The estimates of the scenario “Modeled with Improvement” were calculated assuming that there will be incremental improvements in effective isolation such that: 65% of cases are effectively isolated from 28 August – 26 October 2019; 70% of cases are effectively isolated from 27 October – 25 December 2019; and 95% of cases are effectively isolated from 26 December 2019 onward (see Table 1).

\*\*The estimates of future cases were produced by assuming that 35% of identified cases are only being isolated after they have infected other people and caused onward transmission (Table 1).

\*\*\*Sensitivity analyses demonstrate the projected number of Ebola cases if the modeled estimate of cases effectively isolated is +/- 10% than the base analysis (Table 1) beginning 27 September 2019.

¶For some cases, we imputed date of symptom onset. See Methods section for details.

## IMPORTANT CAVEATS

All case estimates and projections presented are based on reported case data provided by WHO on 22 October 2019, unless otherwise stated.

- The accuracy of case estimates and projections depends on the accuracy of case reports.
- The estimates and projections may change as more data are reported.
- Projections made for future dates become more uncertain the farther out we project, as it is unknown how conditions may change over time. The projections provided assume that the present trends and conditions remain unchanged into the future and should be interpreted as providing relative comparisons between intervention strategies (given all caveats and assumptions listed). The estimates should not be considered exact predictions of the future.

## EXPANDED RESULTS

Other epidemiologic indicators (Table 2) help evaluate the estimates presented here and assess the overall success of current response efforts. For example, during the past 3 weeks (from 2 October to 22 October), 22% of all new Ebola cases were only identified as Ebola cases at or after the time of death (i.e., community deaths), and 52% of new cases were not previously identified as contacts of other cases. Furthermore, only 33% of new cases were isolated early in the course of disease, i.e., within 3 days of symptom onset.

**Table 2: Additional outbreak indicators: Characteristics of new confirmed cases (n=59) for 18 September – 08 October 2019**

Characteristic	Cases	%	Target %*
Community Deaths <sup>†</sup>	11	22%	0%
Not Known Contacts	26	52%	20%
Cases isolated within 3 days of symptom onset	16	33%	70%
Known and Monitored Contacts	21	42%	80%
Health Care Worker Infections	1	2%	0%

<sup>†</sup>Cases identified at time of death. The high proportion of community deaths reported among confirmed cases, persistent delays in detection and isolation in ETUs, and challenges in the timely reporting and response to probable cases all collectively increase the likelihood of further chains of transmission in affected communities and contribute to increased risk of geographical spread within the Democratic Republic of the Congo and to neighboring countries. (CDC/CGH/DGHP Communication, 14 August 2019)

\*Targets are based on the assumption that in order to rapidly end the outbreak approximately 70% of cases must be effectively isolated. (1) This was shown to be a realistic policy goal in the 2014-16 West African Ebola outbreak. (12)

## ACCURACY

To track the accuracy of model estimates, we have been comparing the projected cases counts to the reported cases counts for 14 days, 28 days and 42 days from the date of the initial model run (Appendix Table A2.1). Since 30 January 2019, when we began imputing dates of symptom onset, modeled projections have been accurate to approximately 5% for the 14-day projections and around 10% for the 28-day projections on average (Appendix Table A2.1). Most projections have been under-estimated (i.e., actual cases recorded at a future date have been greater than those estimated from the model when the memo was produced). Some memos, however, included over-estimates of future cases (i.e., model results were greater than the resulting number of actual cases) (Appendix Figure A2.1); this may be due to an approximate 25% of cases not being reported during late May – early June 2019 (10,11). Since memo version 3.10 (produced 5 June 2019), model accuracy has notably improved, with projected estimates falling within 10% of actual case counts as far out as 12 weeks into the future. (Appendix: Table A2.1, Figure A2.1).

## SENSITIVITY ANALYSIS

We conducted a sensitivity analysis to show the impact of  $\pm 10\%$  difference in the percentage of cases that are effectively isolated on projections of future case counts (Figures 1a and 1b). In the base analysis, we estimate that 65% of cases are being effectively isolated from 28 August 2019 onward, resulting in an estimated 3,409 Ebola cases by 23 April 2020. If the estimated proportion of cases that are effectively isolated is lowered to 55% beginning 27 September 2019, there would be an estimated 3,653 Ebola cases by 23 April 2020 with 7 new cases per week; in this scenario, the outbreak would be expected to continue beyond September 2020. If the estimated proportion of cases that are effectively isolated is raised to 75% beginning 27 September 2019, the outbreak would be expected to effectively end as of 4 February 2020 with a total of 3,329 cases.

## METHODS

We used the EbolaResponse model (available at <http://dx.doi.org/10.15620/cdc.24900>) to determine the proportion of Ebola cases in two categories:

1. Patients effectively isolated (i.e., either by placement in an Ebola Treatment Unit and/ or their contacts and contacts-of-contacts are effectively vaccinated, to prevent onward transmission), such that there is a reduced risk of disease transmission
2. Patients not effectively isolated, such that there is continued risk of onward transmission.

Estimates of the proportions of cases in these categories were produced by fitting the modeled data to the actual confirmed/probable cumulative case counts from DRC (Appendix 1: Figure A1.2) provided by the Goma Analytic Cell, which reports to the DRC Ministry of Health's Emergency Operations Center.

**Imputation of date of symptom onset for cases missing data**

Cases without reported date of symptom onset were assigned a date of symptom onset that was 7 days earlier than their case report dates. Of the 3,250 cases (3,133 confirmed + 117 probable) included in the analyses reported in this memo, 183 (6%) cases were missing date of symptom onset; for these cases we used the imputed date of symptom onset.

**Additional description of Methods:**

A detailed description of the methods and assumptions used in the EbolaResponse model is provided in Appendix 1.

**LIMITATIONS**

- The modeled data presented here project case counts through 23 April 2020. Estimates of future cases become more uncertain the farther out we project, as it is unknown how conditions may change over time. The projections provided assume that the present trends and conditions remain unchanged into the future and should be interpreted as providing the estimated impact of intervention vs. no intervention strategies.
- The EbolaResponse model uses 30-day increments to model changes in the proportion of Ebola cases assigned to each category.
- The main set of results presented in this memo do not take into account any corrections for underreporting. The World Health Organization has estimated that up to 25% of cases may not be recorded/reported (10, 11). There are no data on how such underreporting may have changed over the course of the epidemic to date.

## APPENDIX 1: EbolaResponse tool: Methods and Assumptions

### Model overview:

We built a spreadsheet-based model, called EbolaResponse, that allows a user to estimate the number of Ebola cases in the DRC and the proportion of cases that are effectively isolated such that onward Ebola transmission is prevented (1).

### Type of model:

Our model, EbolaResponse, tracks patients through the following states: Susceptible (not yet infected); infected people incubating Ebola virus (but not yet infectious), infectious, recovered or dead (an SIIR model). The model is in effect, a Markov Chain model, and is similar in concept to that built by Chowell et al. (2). The one exception is that Chowell et al. included a state labeled “Exposure” and did not include our “incubating but not infectious category”.

We use probabilities, drawn from reports of Ebola outbreaks, to model the daily movement of patients between and within the states. For example, for duration of incubation period, we adapted data from (3), which indicates the probability (likelihood) that patients will incubate 1, 2, 3 or more days, up to a maximum of 25 days (see below).

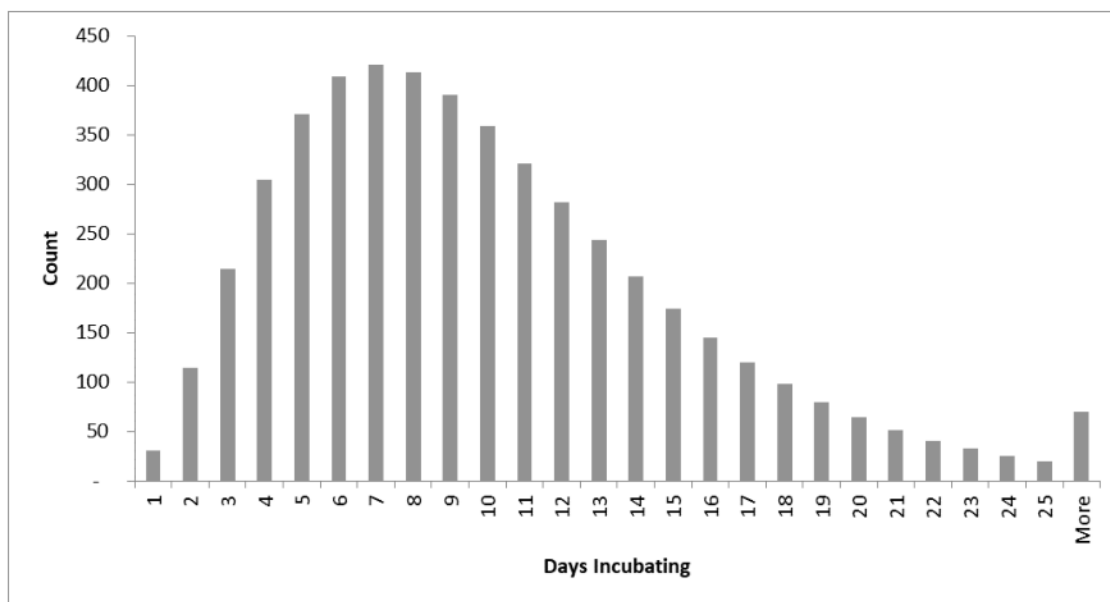
*Progression only:* A patient can only progress forward through the model, and can never regress (e.g., can never go from incubating back to susceptible). Nor can a patient skip a state (e.g., go from incubating to recovered, skipping infectious).

*Community size:* We used a community size of 78.7 million people (the estimated 2016 national population of the DRC, (3). The community size can be readily altered in the model.

*Incubation period:* We adapted published *probability distribution* data (3) to construct a gamma probability distribution of incubating with Ebola (Figure A1.1 and Table A1.1). We use a mean incubation period of 10.02 days (3).

Previous data from a 1995 outbreak in the Democratic Republic of the Congo (formerly Zaire) and a 2000 outbreak in Uganda (2), estimated mean incubation periods of 5.30 (SD 0.23) and 3.35 (SD 0.49) days, respectively. These appear to be lower than other published estimates (5, 6). Some of the differences may be attributable to different sub-types of the virus (5). Within the EbolaResponse model, the probability distribution for incubation can be readily changed to almost any structure desired, with an upper limit of 25 days incubation.

**Figure A1.1. Frequency distribution of probability of incubating with Ebola for a population = 5,000\***



\* Source: Adapted from (3).



**Table A1.1: Frequency distribution of probability of incubating with Ebola**

<i>Days</i>	<i>Frequency</i>	<i>Percent</i>	<i>Cumulative Percent</i>	<i>Days</i>	<i>Frequency</i>	<i>Percent</i>	<i>Cumulative Percent</i>
1	31	0.6%	0.2%	14	207	4.1%	79.6%
2	114	2.3%	1.6%	15	174	3.5%	83.4%
3	215	4.3%	4.9%	16	145	2.9%	86.6%
4	305	6.1%	10.1%	17	120	2.4%	89.2%
5	371	7.4%	16.9%	18	98	2.0%	91.4%
6	409	8.2%	24.7%	19	79	1.6%	93.2%
7	421	8.4%	33.1%	20	64	1.3%	94.6%
8	413	8.3%	41.5%	21	51	1.0%	95.7%
9	391	7.8%	49.5%	22	60	1.2%	96.7%
10	358	7.2%	57.0%	23	50	1.0%	97.4%
11	321	6.4%	63.8%	24	45	0.9%	98.0%
12	282	5.6%	69.8%	25	35	0.7%	98.4%
13	243	4.9%	75.1%				
				Totals	5,000	100.0%	

Source: Adapted from (3).

#### *Infectious period:*

Based on WHO data, we used an infectious period of 6 days (3). This would include any time taken for a traditional burial. Chowell et al, using data from a 1995 outbreak in the Democratic Republic of the Congo (formerly Zaire) and a 2000 outbreak in Uganda, estimated mean infectious periods of 5.6 and 3.35 days, respectively (2). This period of 6 days includes all stages of symptomatic illness. It is true that patients may be symptomatic for longer periods (see 3) but being symptomatic is different than having the risk of onward transmission.

Note that the risk of onward transmission, absent effective isolation, does change as a patient becomes sicker (7, 8). However, EbolaResponse does not track individual patients. Instead, the model employs aggregate (e.g., mean) risk of onward transmission, aggregated over the entire period of symptomatic illness (1).

*Potential risk:* The following description from northern Uganda indicates the potential risk, due to possible contact with a victim's body fluids, posed by traditional burial of an Ebola victim: "A brief study indicated that once a person died, his or her paternal aunt (father's sister) was called to wash and prepare the body for burial. If the father did not have a sister, an older woman in the victim's patriline was asked to prepare the body. Generally, the woman removed the clothes from the body, washed the body, and dressed the deceased in a favorite outfit. At the funeral, all family members ritually washed their hands in a common bowl, and during open casket all were welcome to come up to deceased person and give a final touch on the face or elsewhere (called a love touch). The body was then wrapped in a white cloth or sheet and buried." (9)

#### *Population "governor"*

Although we explicitly don't include an "exposed" population element in the model, we do include a population "governor" that prevents the model from calculating more cases than the inputted population. This "over-calculation" could happen if one assumes that there is a relatively large percentage (defined below) of the population that become infected and are not effectively isolated, presenting a risk of onward disease transmission (Table A1.3).

We programmed the governor by simply reducing the daily estimate of the persons newly infected proportionate to the cumulative reduction in the susceptible population, as follows:

Factor to reduce estimate of newly infected at Day  $t$  = (Model population – cumulative total of newly infected up to day  $(t-1)$ ) / model population.

What this "governor" essentially does is to reduce, on a daily basis, the effective number of persons infected (i.e., effectively lowers the risk of transmission inputs shown in Table A1.3). In most instances, with "large populations," this

governor is unlikely to impact the calculations. The “governor” only begins to appreciably impact estimates (i.e., reduce them) when approximately 40% - 50% of the population have become infected.

#### *Population and numbers initially infected*

Country: The Democratic Republic of the Congo

Total Population: 78.7 million

Number Initially Infected: 1

#### *Distribution of patient by category over time*

As explained in the main text, we split the patients into two categories of isolation, as follows:

1. Patients effectively isolated (i.e., hospitalized in ETCs or otherwise receiving medical care), such that there was reduced contact with others and a reduced risk of disease transmission.
2. Patients not effectively isolated, such that there was continued risk of onward transmission.

We explain how we calculate the percentage of patients in each category in the “goodness-of-fit” sub-section (below).

The risk of onward transmission from an Ebola patient to susceptible persons, by patient category, is shown in Table A1.3.

The distribution of patients into these categories affects the overall progress of the epidemic. The more patients in the “effectively isolated” category, the slower the progress of the epidemic because this category has a transmission rate of less than 1 person infected per infectious person. The distribution of patients into these categories, and how we changed those distributions over time, is shown in Table 1.

**Table A1.3: Risk of onward transmission by category of patient: Values fitted to data compared to those in the literature**

Patient category	Daily risk of onward transmission		Total numbers infected per infectious person**		
	Values from literature (95% CI) <sup>†</sup>	Values used to fit to data in DRC*	Values from literature (95% CI)	Model estimates	
Effectively isolated	DRC 0.1134 (0.00001 – 0.5842)	0.03	DRC 0.4 (0 – 2.2)	0.18	
	Uganda 0.0017 (0.0 – 0.918)		Uganda 0.01 (0 – 3.5)		
No effective isolation	DRC 1.0932 (0.00001 – 1.4281)	0.3	DRC 1.8 (0 – 2.3)	1.8	
	Uganda 0.066 (0.0 – 3.0367)		Uganda 0.1 (0 – 3.2)		

\* These are the values used in the model in order to obtain a “good fit” to the data-to-date.

\*\* Values of “Total number of persons infected per infectious person”: When these values remain below 1 person infected per infectious person, then the epidemic will eventually end. For model: These are the equivalent values used to fit the model to the data, assuming 6 days of infectiousness (e.g.,  $0.3 \times 6 = 1.8$  persons infected per infectious person as per model fit)

<sup>†</sup> Values adapted from weekly values given by Legrand et al (6), from Ebola outbreaks in 1995 in Democratic Republic of Congo (DRC) (formerly Zaire), 2000 in Uganda. CI = Confidences Intervals.

<sup>††</sup> We used, as proxies for “effective isolation,” Legrand et al.’s measurements of “community component” (without burial) from DRC, as these were below 1.

Source; Adapted from Legrand et al., 2007 (6).

#### *Goodness-of-Fit:*

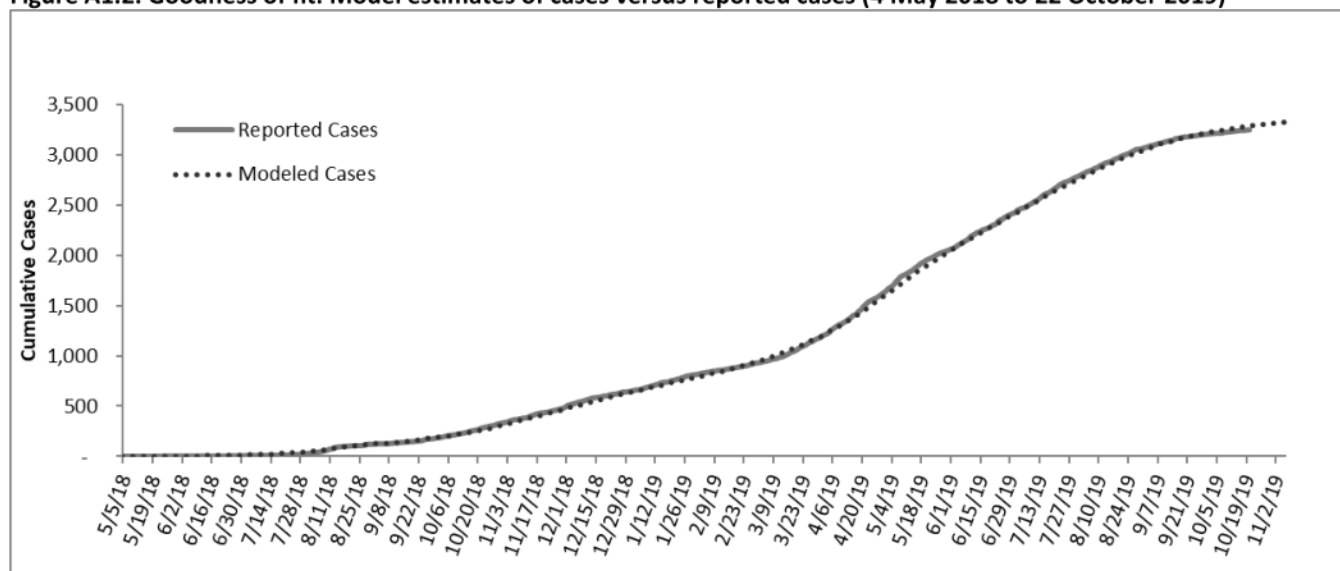
##### *Scenarios: Fitting to the existing data*

For the original conception of the model, we essentially “reverse engineered” the following variables:

- i) Percentage of patients in each of the categories (effectively isolated; No effective isolation), with percentages changing over time (increments of 30 days) (see Main Text, Table 1).
- ii) Risk of transmission by type of patient, with daily risk of onward transmission changing over time (increments of 30 days) (see Appendix Table A1.3).

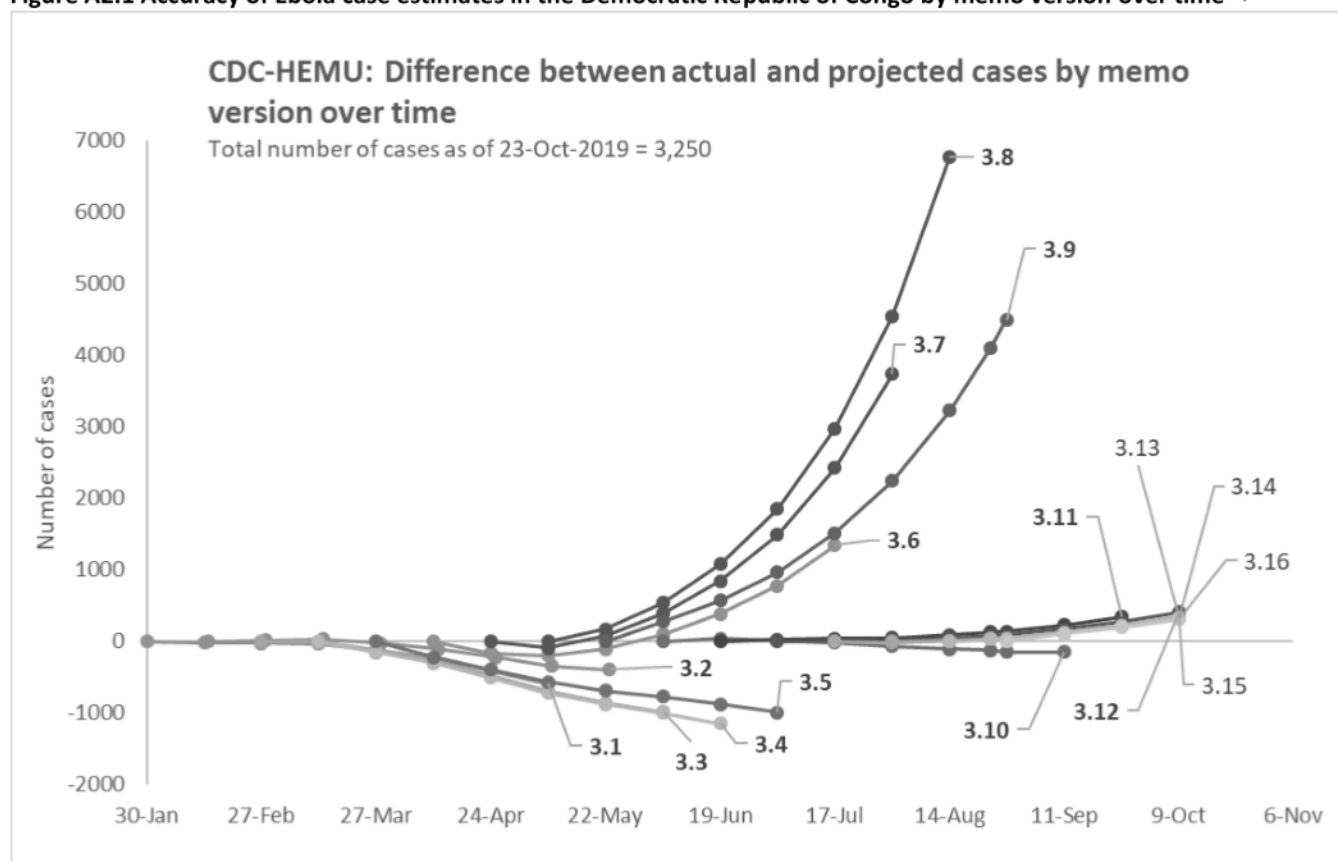
For the purpose of this analysis, we held fixed the previously used values for risk of transmission and only varied the percentage of patients in each of the three categories. Essentially, we “balance” the percentages in “effectively isolated” and “NOT effectively isolated” until the plot of the model “fits” the plot of the actual data, as shown in Figure A1.2. Figure A1.2 shows the goodness-of-fit, comparing estimates of cases produced using EbolaResponse model to reported confirmed and probable Ebola cases.

**Figure A1.2. Goodness of fit: Model estimates of cases versus reported cases (4 May 2018 to 22 October 2019)**



## APPENDIX 2: Accuracy of Model Estimates

**Figure A2.1 Accuracy of Ebola case estimates in the Democratic Republic of Congo by memo version over time\***<sup>†</sup>



\*Note: See Table A2.1 for detailed summary of accuracy for all memos produced.

<sup>†</sup> The graph shows plots of accuracy, in 2-week segments, of selected memo versions of previous memos indicated by the version number. The y-axis represents count differences between modeled future cases and actual case counts on a given date. For example, the plot of memo version 3.7 (produced 24 April 2019), shows that those estimates of cases expected by 8 May 2019 differed by about 88 cases (5%) below the actual number of cases that occurred on that date. By 19 June 2019, the estimates produced on 24 April 2019 were approximately 37% greater (N = 847 cases) than actually reported. This decrease in accuracy is attributed to the temporary decline in reported cases in late May – which may be due to an approximate 25% of cases not being reported during that period. (10, 11)

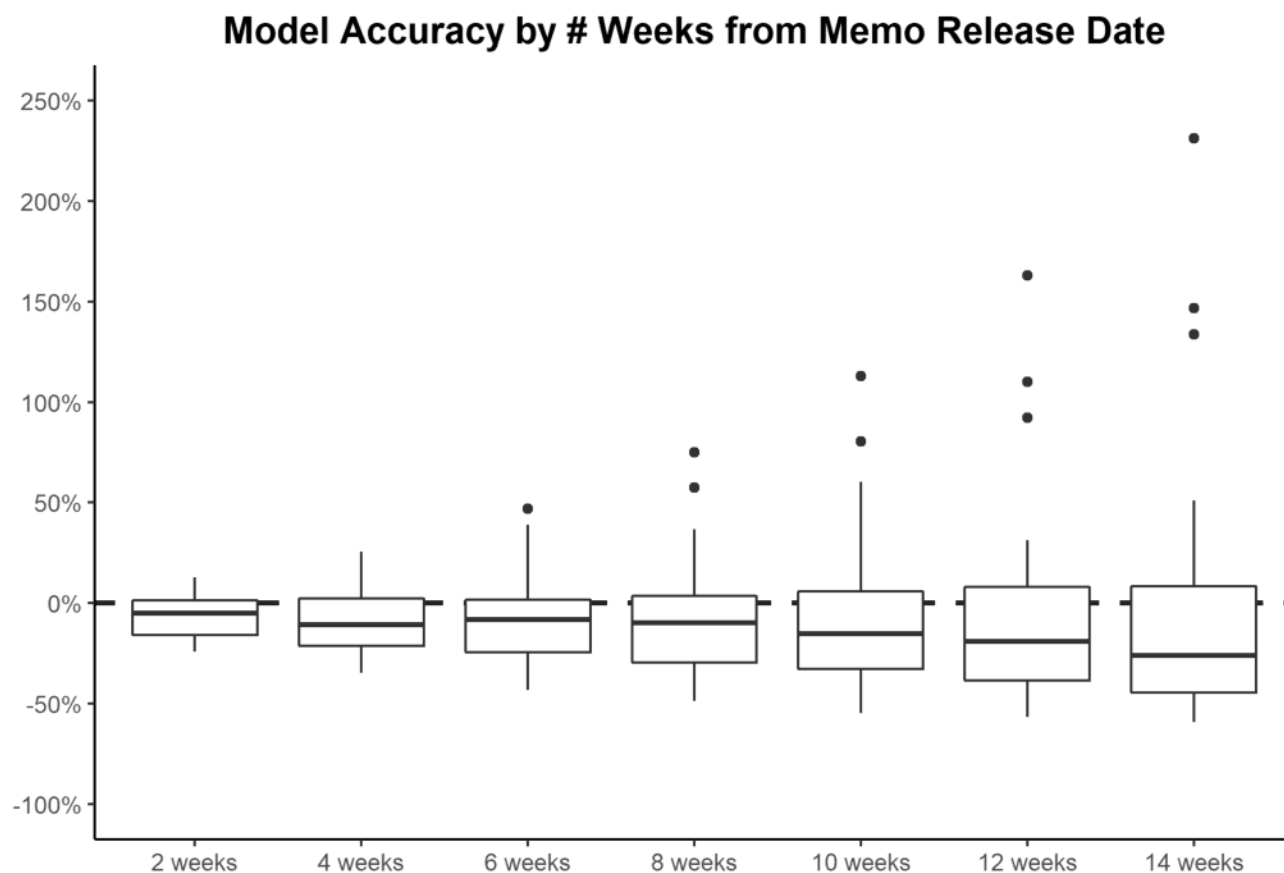
**Figure A2.2 Boxplot of accuracy of Ebola case estimates in the Democratic Republic of Congo**

Figure A2.2 is a box-plot of accuracy of all the results reported in the memos (Figure A2.1), regardless of the date of when the estimate was made. The plot is given in standard Tukey format, where the boxes plot the range of the middle 50% of all estimates (Quartile 1 – Quartile 3). The box is split by a line indicating the median. The ‘whiskers’ extend to the farthest point that are not considered outliers, where an outlier is shown by a dot, and is defined as being  $>1.5x$  the interquartile range (Quartile 1 – Quartile 3) from the end of the box.

Interpretation: The majority of the memos have under-estimated reported cases by less than 50% (i.e., the boxes are between 0% and -50%). A small percentage (less than 10%) of estimates over-estimated by more than 100% (the top of the “whiskers” at 10, 12 and 14 weeks), however, all such estimates are considered outliers according to the definition given above.

**Table A2.1. Accuracy of Ebola case estimates in Democratic Republic of Congo, 2-, 4-, and 6-weeks post-estimate\*^**

Memo Version and Date	Data date and total reported cases	14-day (2 weeks)				28-day (4 weeks)				42-day (6 weeks)			
		Date	Cases			Date	Cases			Date	Cases		
			Actual	Estimated	% diff		Actual	Estimated	% diff		Actual	Estimated	% diff
1.1	11-Oct-18	5-Oct-18	179			19-Oct-18	260	199	-23%	16-Nov-18	410	232	-43%
2.0	18-Oct-18	16-Oct-18	214			30-Oct-18	317	240	-24%	27-Nov-18	462	297	-36%
2.1	23-Oct-18	23-Oct-18	238			6-Nov-18	347	289	-17%	4-Dec-18	504	368	-27%
2.2	6-Nov-18	5-Nov-18	305			19-Nov-18	422	352	-17%	17-Dec-18	580	443	-24%
2.3	14-Nov-18	14-Nov-18	339			28-Nov-18	467	411	-12%	26-Dec-18	618	544	-12%
2.4	21-Nov-18	21-Nov-18	373			5-Dec-18	513	442	-14%	2-Jan-19	650	580	-11%
2.5	6-Dec-18	4-Dec-18	458			20-Dec-18	596	504	-15%	17-Jan-19	723	591	-18%
2.6	19-Dec-18	17-Dec-18	542			2-Jan-19	650	570	-12%	30-Jan-19	799	674	-16%
2.7	2-Jan-19	2-Jan-19	598			16-Jan-19	721	593	-18%	13-Feb-19	859	648	-25%
2.8	15-Jan-19	15-Jan-19	648			29-Jan-19	797	630	-21%	26-Feb-19	914	681	-25%
V 3.1	30-Jan-19	30-Jan-19	733			13-Feb-19	859	837	-3%	13-Mar-19	997	962	-4%
V 3.2	14-Feb-19	14-Feb-19	820			28-Feb-19	931	948	2%	28-Mar-19	1161	1132	-2%
V 3.3	27-Feb-19	27-Feb-19	871			13-Mar-19	997	947	-5%	10-Apr-19	1325	1022	-23%
V 3.4	13-Mar-19	13-Mar-19	920			27-Mar-19	1147	988	-14%	24-Apr-19	1559	1052	-33%
V 3.5	27-Mar-19	27-Mar-19	1,020			10-Apr-19	1325	1103	-17%	8-May-19	1796	1226	-32%
V 3.6	10-Apr-19	10-Apr-19	1,177			24-Apr-19	1559	1390	-11%	22-May-19	1978	1870	-5%
V 3.7	24-Apr-19	24-Apr-19	1,360			8-May-19	1796	1705	-5%	5-Jun-19	2118	2510	19%
V 3.8	8-May-19	8-May-19	1,591			22-May-19	1978	2144	8%	19-Jun-19	2284	3360	47%
V 3.9	22-May-19	20-May-19	1,857			5-Jun-19	2118	2391	13%	3-Jul-19	2463	3425	39%
V 3.10	5-Jun-19	5-Jun-19	2,016			19-Jun-19	2284	2324	2%	17-Jul-19	2628	2607	-1%
V 3.11	19-Jun-19	19-Jun-19	2,181			3-Jul-19	2463	2486	1%	31-Jul-19	2792	2842	2%
V 3.12	3-Jul-19	3-Jul-19	2,372			17-Jul-19	2628	2636	0%	14-Aug-19	2930	2975	2%
V 3.13	17-Jul-19	17-Jul-19	2,515			31-Jul-19	2792	2771	-1%	28-Aug-19	3057	3093	1%
V 3.14	31-Jul-19	31-Jul-19	2,690			14-Aug-19	2930	2933	0%	11-Sep-19	3135	3252	4%
V 3.15	14-Aug-19	14-Aug-19	2,843			28-Aug-19	3057	3093	1%	25-Sep-19	3193	3409	7%
V 3.16	28-Aug-19	28-Aug-19	2,997			11-Sep-19	3135	3241	3%	9-Oct-19	3227	3534	10%
V 3.17	11-Sep-19	11-Sep-19	3,091			25-Sep-19	3193	3284	3%	23-Oct-19	-	3490	-
V 3.18	25-Sep-19	24-Sep-19	3,175			9-Oct-19	3227	3302	2%	6-Nov-19	-	3425	-
V 3.19	9-Oct-19	8-Oct-19	3,207			23-Oct-19	-	3293	-	20-Nov-19	-	3346	-
V 3.20	23-Oct-19	22-Oct-19	3,250			6-Nov-19	-	3323	-	4-Dec-19	-	3363	-

\*Actual case counts taken from CDC line list data; includes all confirmed and probable cases. ^ Models (from version 3.1 onward) were run using cases with imputed date-of-symptom onset. Including those with imputed date-of-symptom onset improves the model fit. The number of cases with imputed date-of-symptom onset is provided in the Methods section of the main text. Case count data from WHO line listing starting from version 3.16 (28-Aug-19).

### APPENDIX 3: Log of recent changes to previous memo versions

(Full log of all changes to each previous memo version and changes in estimates over time are available upon request to: [eocmodelingunit@cdc.gov](mailto:eocmodelingunit@cdc.gov))

#### **Changes from V3.19 to 3.20**

- Updated model fit with case report data provided by WHO in coordination with CDC IMS Ebola Response Epi-Lab Task Force available through 22 October 2019.
- Extended the projection to 23 April 2020.

#### **Changes from V3.18 to 3.19**

- Updated model fit with case report data provided by WHO in coordination with CDC IMS Ebola Response Epi-Lab Task Force available through 8 October 2019.
- Estimated the projected case counts and impact of improving the proportion of Ebola cases effectively isolated assuming the following changed scenario for future changes in the proportion of cases effectively isolated such that onward transmission is prevented:
  - 59% of cases from 29 July – 27 August 2019
  - 65% of cases from 28 August – 26 September 2019
  - 65% of cases from 27 September – 26 October 2019
  - 70% of cases from 27 October – 25 November 2019
  - 70% of cases from 26 November – 25 December 2019
  - 95% of cases from 26 December 2019 – 24 March 2020

#### **Changes from V3.17 to 3.18**

- Updated model fit with case report data provided by WHO in coordination with CDC IMS Ebola Response Epi-Lab Task Force available through 24 September 2019.
- Estimated the projected case counts and impact of improving the proportion of Ebola cases effectively isolated assuming the following changed scenario for future changes in the proportion of cases effectively isolated such that onward transmission is prevented:
  - 52% of cases from 29 June – 28 July 2019
  - 58% of cases from 29 July – 27 August 2019
  - 58% of cases from 28 August – 26 September 2019
  - 58% of cases from 27 September – 26 October 2019
  - 64% of cases from 27 October – 25 November 2019
  - 70% of cases from 26 November – 25 December 2019
  - 95% of cases from 26 December 2019 – 23 February 2020

#### **Changes from V3.16 to 3.17**

- Updated model fit with case report data provided by WHO in coordination with James Fuller (CGH/DGHP) available through 10 September 2019.
- Estimated the projected case counts and impact of improving the proportion of Ebola cases effectively isolated assuming the following changed scenario for future changes in the proportion of cases effectively isolated such that onward transmission is prevented:
  - 52% of cases from 29 June – 28 July 2019
  - 54% of cases from 29 July – 27 August 2019
  - 54% of cases from 28 August – 26 September 2019
  - 54% of cases from 27 September – 26 October 2019
  - 62% of cases from 27 October – 25 November 2019\*
  - 70% of cases from 26 November – 25 December 2019
  - 95% of cases from 26 December 2019 – 23 February 2020

\*Note: Schedule for improvement in interventions schedule changed to start on 27 October 2019.

- Removed the sensitivity analysis scenario of a 20% improvement to the current/base analysis.

**Changes from V3.15 to 3.16**

- The source of data used to update model fit was changed from the CDC dataset to the WHO dataset. The data from these sources was very similar and this change had a negligible impact on model fitness and results.
- Updated model fit with case report data provided by WHO in coordination with James Fuller (CGH/DGHP) available through 27 August 2019.
- Estimated the projected case counts and impact of improving the proportion of Ebola cases effectively isolated assuming the following changed scenario for future changes in the proportion of cases effectively isolated such that onward transmission is prevented:
  - 51% of cases from 29 July – 27 August 2019
  - 51% of cases from 28 August – 26 September 2019
  - 60% of cases from 27 September – 26 October 2019\*
  - 70% of cases from 27 October – 25 November 2019
  - 95% of cases from 26 November 2019 – 23 February 2020

\*Note: Schedule for improvement in interventions schedule changed to start on 27 September 2019.



## LITERATURE CITED

1. Meltzer MI, Atkins CY, Santibanez S, Knust B, Petersen BW, Ervin ED, Nichol ST, Damon IK, Washington ML, 2014. Estimating the future number of cases in the Ebola epidemic --- Liberia and Sierra Leone, 2014–2015. *MMWR Surveill Summ* 2014;63:1-14.
2. Chowell G, Hengartner NW, Castillo-Chavez C, Fenimore PW, Hyman JM. The basic reproductive number of Ebola and the effects of public health measures: the cases of Congo and Uganda. *J Theor Biol.* 2004 Jul 7;229(1):119-26.
3. WHO Ebola Response Team. Ebola virus disease in West Africa--the first 9 months of the epidemic and forward projections. *N Engl J Med.* 2014 Oct 16;371(16):1481-95.
4. United Nations DoEaSA, Population Division. World Population Prospects: The 2017 Revision, custom data acquired via website. 2017 [cited 10 October 2018]; Available from: <https://population.un.org/wpp/DataQuery/>
5. Eichner M, Dowell SF, Firese N. Incubation period of Ebola hemorrhagic virus subtype zaire. *Osong Public Health Res Perspect.* 2011 Jun;2(1):3-7.
6. Legrand J, Grais RF, Boelle PY, Valleron AJ, Flahault A. Understanding the dynamics of Ebola epidemics. *Epidemiol Infect.* 2007 May;135(4):610-21.
7. Lindblade KA, Nyenswah TG, Keita S, Diallo B, Kateh F, Amoah A, et al. Secondary Infections with Ebola Virus in Rural Communities, Liberia and Guinea, 2014–2015. *Emerg Infect Dis.* 2016;22(9):1653-1655. <https://dx.doi.org/10.3201/eid2209.160416>.
8. Lindblade KA, Kateh F, Nagbe TK, Neatherlin JC, Pillai SK, Attfield KR, et al. Decreased Ebola Transmission after Rapid Response to Outbreaks in Remote Areas, Liberia, 2014. *Emerg Infect Dis.* 2015;21(10):1800-1807. <https://dx.doi.org/10.3201/eid2110.150912>.
9. Hewlett BS, Amola RP. Cultural contexts of Ebola in northern Uganda. *Emerg Infect Dis.* 2003;9(10):1242-8.
10. Soucheray S. No 'reset' with Ebola outbreak, WHO official says. June 06, 2019. Available at: [cidrap.umn.edu/news-perspective/2019/06/no-reset-ebola-outbreak-who-official-says](http://cidrap.umn.edu/news-perspective/2019/06/no-reset-ebola-outbreak-who-official-says) (accessed 04 July 2019).
11. Branswell H. WHO sees progress in Ebola response, but others see a grimmer reality. June 06, 2019. Available at: <https://www.statnews.com/2019/06/06/who-sees-progress-in-ebola-response-but-others-see-a-grimmer-reality/> (accessed 04 July 2019).
12. Frieden TR, Damon IK. Ebola in West Africa--CDC's Role in Epidemic Detection, Control, and Prevention. *Emerg Infect Dis.* 2015; 21:1897-1905.

# ESTIMATION OF THE NUMBER OF MERCK EBOLA VACCINE DOSES NEEDED, THE DEMOCRATIC REPUBLIC OF CONGO

## Ebola Vaccine Doses Estimation Memo V1.11

### Contents

SCENARIOS / BOTTOM LINE RESULTS .....	2
MAIN TABLES AND FIGURES .....	3
IMPORTANT CAVEATS .....	6
EXPANDED RESULTS .....	6
METHODS .....	7
APPENDIX 1: Supplemental Figures .....	9
APPENDIX 2: Estimates of number of Ebola cases .....	10
APPENDIX 3: Log of changes to previous memo versions .....	15

**BACKGROUND:** A critical part of the public health response to the current outbreak of Ebola in the Democratic Republic of the Congo (DRC) is the deployment and administration of an Ebola vaccine (recombinant vesicular stomatitis virus–Zaire Ebola virus (rVSV-ZEBOV) vaccine, produced by Merck). The goal of this memo is to identify the amount of the Merck Ebola vaccine that may be needed in responding to this outbreak through 31 August 2020.

**QUESTIONS:** Using epidemiologic data from 08 Oct 2019, and three scenarios of the number of doses of Merck Ebola vaccine needed per case, as well as an alternative strategy using fractional dosing (for additional details, see Methods section), we answer the following questions:

- How many doses of Merck Ebola vaccine will be needed using each of three vaccination tactics assuming varying levels of effective isolation of Ebola cases?
- How does the estimated need for Merck Ebola vaccine compare to Merck vaccine supply between now and 31 August 2020?

**Date: 11 October 2019**

Authors: Centers for Disease Control and Prevention (CDC): Bishwa Adhikari, Brad Greening, Seonghye Jeon, Emily Kahn, Gloria Kang, Gabrielle Miller, Martin Meltzer, Health Economics and Modeling Unit (HEMU/DPEI); James Fuller (CGH/DGHP)  
Acknowledgements: Inger Damon (DHCPP/NCEZID/CDC); Dan Wolfe (BARDA/ASPR/HHS)

**RED FLAG ALERT:** The estimated proportion of cases in effective isolation has increased from 50% (v1.10) to 65% (v1.11, based on 09 October 2019 projections). Assuming no changes, the epidemic is now projected to end by 5 May 2020 with 3,410 total cases. Other outbreak indicators have shown small levels of improvement. Given the unknown degree of under-reporting of cases, however, these estimates of improvements in the control of the outbreak should be interpreted with caution. Assuming no changes in current control efforts, Merck Ebola vaccine supply will be adequate to meet demand, for each of the 3 vaccine use scenarios examined, through 31 August 2020.

## SCENARIOS / BOTTOM LINE RESULTS

**SCENARIOS:** Epidemiological and Merck Ebola vaccine doses needed

### **A) Epidemiological scenarios:** Total of 3 epidemiological scenarios

- Base case: Using reported Ebola cases up to 09 October 2019, we estimated that 65% of Ebola cases are effectively isolated (cf. Ebola Case Projection Memo v3.19). The base case is then estimated by projecting forward that 65% of Ebola cases are effectively isolated, and assuming that there are no improvements in effectiveness of interventions going forward in time.
- Two sensitivity analyses assuming that, going forward from October 2019, 55% and 75% of cases have been effectively isolated, respectively.

**B) Merck Vaccine doses needed** per case under current vaccination guidelines of 1.0 ml doses; we estimate the Merck vaccine usage based on the following 3 vaccination tactics:

- Ring vaccination tactic: 96 doses per case (vaccinate contacts, contact-of-contacts, health care workers and frontline workers)
- Mixed-use vaccination tactic: 140 doses per case (70% of doses used in a ring vaccination tactic; 30% of doses used in a geographic based vaccination tactic)
- Geographic-based vaccination tactic: 240 doses per case

**C) Merck Vaccine doses needed: Fractional dosing strategy:** Repeat the above 3 vaccination tactics, adjusting estimate of Merck vaccine supply assuming all vaccinees receive 0.5 ml dose (so called “Guinea dose”).

## BOTTOM LINE RESULTS

### **Vaccination strategy: All vaccinees receive 1.0 ml dose:**

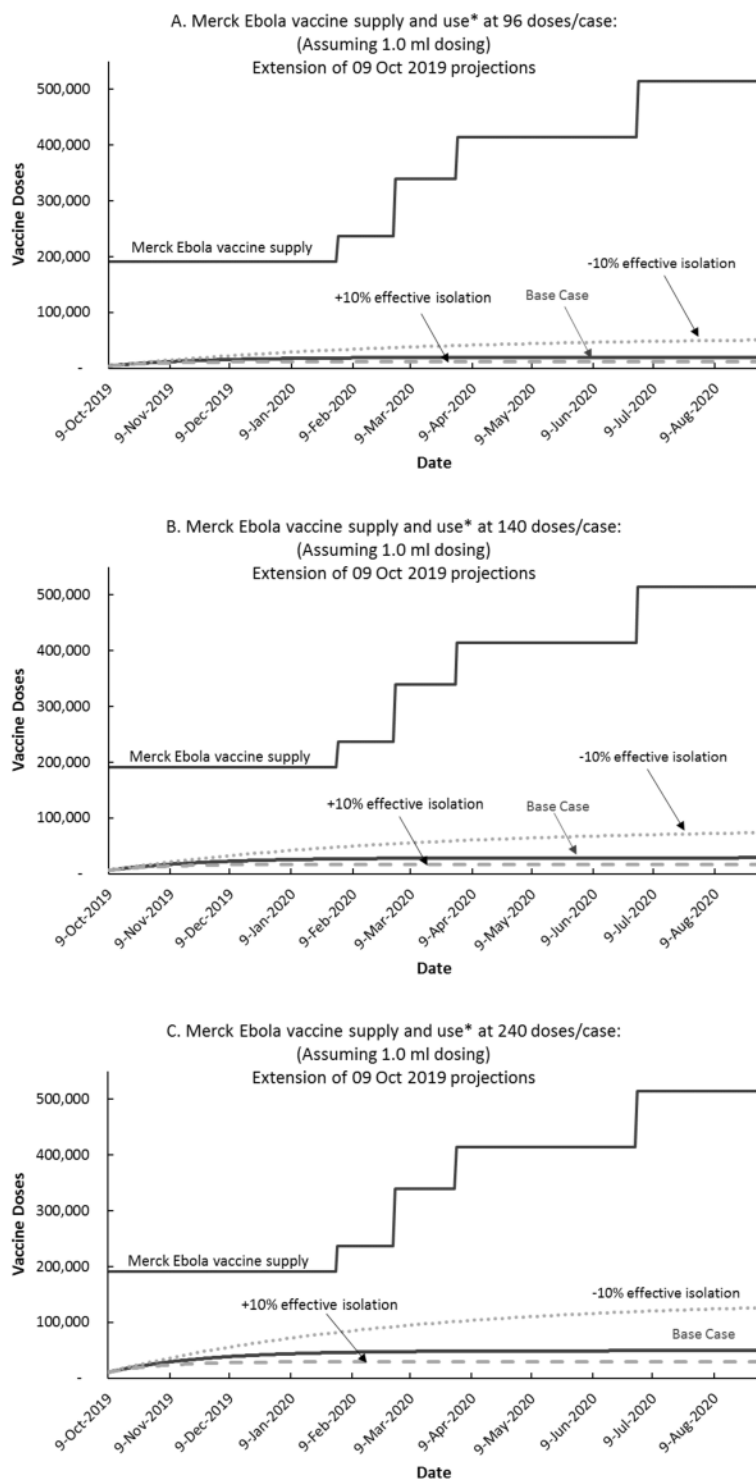
- **Base case:** With a ring vaccination strategy (96 doses per case), an estimated 19,609 Merck vaccine doses will be needed through 31 August 2020. With a mixed-use vaccination strategy (140 doses per case) or a geographic-based vaccination strategy (240 doses per case), an estimated 28,597 to 49,023 Merck vaccine doses will be needed through 31 August 2020, respectively (Figure 1 and Table 1).
- **Lower limit of doses needed:** Using a ring vaccination strategy and assuming that 75% of Ebola cases are effectively isolated (i.e., a 10% improvement in effective isolation from current estimates), 11,748 doses will be needed (Table 1).
- **Upper limit of doses needed:** Using a geographic-based vaccination and assuming that 55% of Ebola cases are effectively isolated (i.e., a 10% decrease in effective isolation), 126,053 doses will be needed.

**Potential impact of dose-sparing strategy<sup>1</sup>: All vaccinees receive 0.5 ml dose** Under all scenarios, current Merck Ebola vaccine supply will be adequate to meet demands by 31 August 2019.

<sup>1</sup> Dose sparing calculations based on WHO SAGE recommendations of May 07, 2019 (see: [https://www.who.int/immunization/policy/position\\_papers/interim\\_ebola\\_recommendations\\_may\\_2019.pdf](https://www.who.int/immunization/policy/position_papers/interim_ebola_recommendations_may_2019.pdf)).

## MAIN TABLES AND FIGURES

**Figure 1. Merck Ebola vaccine supply and demand: Based on 09 October 2019 case projections<sup>†</sup>**



<sup>†</sup> 96 dose/ case = Ring vaccination tactic (vaccinate contacts, contact-of-contacts, health care workers and frontline workers); 140 dose/case = mixed-use vaccination tactic (30% of doses used in a geographic based vaccination tactic and 70% of doses used in a ring vaccination tactic); 240 dose/case = Geographic-based vaccination tactic.

\* Updated estimates of Merck vaccine supply provided by Dan Wolfe (OS/ASPR/BARDA) on 09 October 2019.

**Table 1. Estimated number of Merck Ebola vaccine doses needed by 31 August 2020, with varying proportions of Ebola cases effectively isolated\* and no improvement in effectiveness of interventions: Three vaccination tactics**

(Based on cases reported up to 08 October 2019)

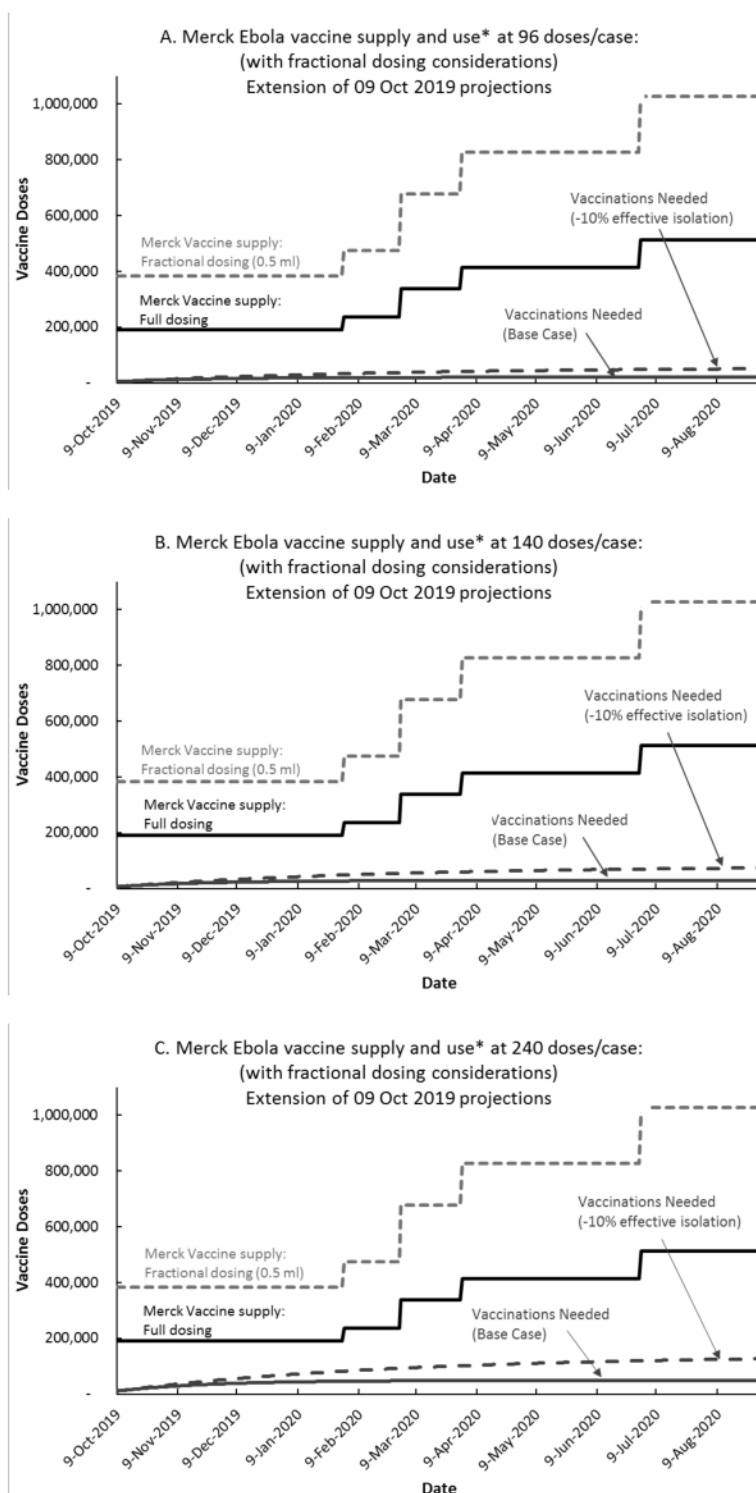
Case estimate scenario**	Estimated cases: 31 Aug 2020	Cases at 08 Oct 2019	Additional cases: 09 Oct 2019 - 31 Aug 2020	Total doses needed by each tactic† (defined by doses/ case)		
				Ring vaccination	Mixed-use vaccination	Geographic vaccination
				96	140	240
65% EFFECTIVE ISOLATION (BASE CASE)	3,411	3,207	204	19,609	28,597	49,023
55% EFFECTIVE ISOLATION (10% DECREASE)	3,732	3,207	525	50,421	73,531	126,053
75% EFFECTIVE ISOLATION (10% INCREASE)	3,329	3,207	122	11,748	17,133	29,371

\* Effective isolation means preventing onward transmission of Ebola by ensuring that a patient is either physically isolated or their contacts are protected from infection. It is defined as identifying an Ebola patient and placing them in an Ebola Treatment Unit (ETU) or equivalent or vaccinating their contacts and contacts-of-contacts so as to prevent onward transmission of the disease. In addition, it can include minimizing the number of treatment facilities per case; vaccination of health care workers, frontline workers and community members; safe and dignified burials when needed.

\*\* Estimates of future cases calculated using the following scenarios of cases effectively isolated. The higher (lower) the percent effectively estimated, the lower (higher) the estimates of future cases.

† 96 dose/ case = Ring vaccination tactic (vaccinate contacts, contact-of-contacts, health care workers and frontline workers); 140 dose/case = mixed-use vaccination tactic (30% of doses used in a geographic based and 70% of doses used in a ring vaccination tactic); 240 dose/case = Geographic-based vaccination tactic.

Health Economics and Modeling Unit (HEMU): 11 October 2019

**Figure 2. Merck Ebola vaccine supply and use: Using 09 October 2019 case projections: Impact of 0.5 ml dose-sparing strategy<sup>†\*</sup>**

<sup>†</sup> 96 dose/ case = Ring vaccination tactic (vaccinate contacts, contact-of-contacts, health care workers and frontline workers); 140 dose/case = mixed-use vaccination tactic (30% of doses used in a geographic based vaccination tactic and 70% of doses used in a ring vaccination tactic); 240 dose/case = Geographic-based vaccination tactic.

\* Updated estimates of Merck vaccine supply provided by Dan Wolfe (OS/ASPR/BARDA) on 09 October 2019. The plots show maximum possible impact of using 0.5ml dose sparing tactic. See Methods for further details.

## **IMPORTANT CAVEATS**

- Projections of cases of Ebola become more uncertain the farther out we project, as it is unknown how conditions may change over time.
- The results presented in this memo do not take into account corrections for underreporting. In late May, it was reported that an approximate 25% of cases were not being reported during that period (10, 11). However, there are no frequent reports of the degree of underreporting, indicating how such underreporting may have changed over the course-to-date of the epidemic.
- The estimated demand for Merck vaccines may not be realized because there may not be sufficient personnel and supplies to effectively deploy and administer the number of vaccines indicated. Inability to deploy and administer sufficient vaccine increases the risk of NOT being able to increase the effectiveness of interventions, and thus delaying the date at which the outbreak is controlled and ended.
- The estimates of demand for Merck vaccines assume that there will be a sufficient number of persons, at risk of contracting Ebola, willing to accept the vaccine. This assumption has not been tested.

## **EXPANDED RESULTS**

### **Sensitivity analyses**

Table 1 shows the number of Merck Ebola vaccine doses that would be needed for three vaccination tactics, assuming three alternative levels of effective isolation (55%, 65% and 75%). The number of vaccine doses needed is very sensitive to the proportion of Ebola cases that are effectively isolated.

Effective isolation of 55% of Ebola cases (10% lower than current estimate):

- Between 50,421 (96 doses per case) and 126,053 doses (240 doses per case) will be needed, depending on the vaccination tactic used. Merck Ebola vaccine supply will be adequate to meet demand by 31 August 2020 under this scenario.

Effective isolation of 75% of Ebola cases (10% higher than current estimate):

- Between 11,748 (96 doses per case) and 29,371 doses (240 doses per case) will be needed, depending on the vaccination tactic used. Merck Ebola vaccine supply will be adequate to meet demand by 31 August 2020 under this scenario.

## METHODS

### Data inputs

**Table 2. Model inputs**

	Extension of 09 Oct 2019 case projections <sup>*</sup>
Cases reported as of 08 October 2019 <sup>**</sup>	3,207
Estimated cases as of 31 August 2020	3,411
<i>Current vaccination guidelines</i>	
Assumed number of doses per case – lower estimate	96
Assumed number of doses per case – middle estimate	140
Assumed number of doses per case – upper estimate	240
Vaccine wastage rate	10%
Inflation factor <sup>§</sup>	20%
<i>Impact of dose sparing tactics<sup>¶</sup></i>	
Multiplier if all persons vaccinated with 1/2 dose (0.5ml)	2

<sup>\*</sup>Ebola case estimates based on reported Ebola cases up to 08 October 2019, and then projecting forward assuming 65% of Ebola cases are effectively isolated (and thus prevent onward transmission), and that there are no improvements in effectiveness of interventions going forward in time.

<sup>\*\*</sup>To determine the future number of doses needed, these cases that occurred up to 08 October 2019 were subtracted from estimates of future cases (see Methods: Calculation of total number of doses).

<sup>§</sup> Factor to allow for vaccination of pregnant or lactating women, infants between the ages 6 months to 1 year, and people not identified through contact tracing or lost to follow-up. See main text for additional details.

<sup>¶</sup>See Methods for details of calculations of impact of dose sparing strategy.

### Number of Merck vaccine doses per case

The lower estimate was set at 96 Merck vaccine doses per case (Table 2). This was calculated based on estimates that, as of 6 October 2019, approximately 233,366 people had been vaccinated and 3,205 Ebola cases had been reported to WHO<sup>2</sup>. Thus, approximately 73 people have been vaccinated for each reported case. We added in a 10% vaccine wastage rate based on the expert opinion of those working closely with DRC's government. In addition, we allowed for 20% additional doses needed to vaccinate pregnant or lactating women, infants between the ages 6 months to 1 year, and people not identified through contact tracing or lost to follow-up arriving at 96 vaccine doses per case.

The upper estimate of 240 Merck vaccine doses per case (Table 2) is based on 200 doses as the approximate average between WHO (176 doses per case) and SAGE (230 doses per case). We added in a 20% increase in doses needed to vaccinate pregnant or lactating women, infants between the ages 6 months to 1 year, and people not identified through contact tracing or lost to follow-up arriving at 240 doses per case. Note that the WHO and SAGE estimates include 10% wastage.

<sup>2</sup> Data provided by WHO (<https://www.who.int/emergencies/diseases/ebola/drc-2019/>). As of 06 October 2019, it was reported that 233,366 persons had been vaccinated. Of those, 56,512 (24%) are contacts, 159,882 (69%) are contacts-of-contacts, and 50,035 (21%) are health care workers and frontline workers.



The estimate of 140 doses/case is a “mixed-use” tactic and is based on a mixture of the two other tactics, assuming 30% of doses are administered using a geographic-based tactic, and 70% are administered using a ring vaccination of contacts tactic. The estimate includes the 10% vaccine wastage that is included in the other two vaccination tactics.

### **Number of future Ebola cases**

For the case projections, we used 3,207 cases (reported up to 08 October 2019) to estimate the expected number of Ebola cases up to 31 August 2020. Using methods described in Appendix 2, we first estimated that, in October 2019, 65% of cases were effectively isolated (i.e., isolated so that they did not cause onward transmission). We then estimated future cases up to 31 August 2020 by assuming that the estimate of 65% of cases effectively isolated would remain constant into the future (i.e., no improvement in effectiveness of interventions).

### **Number of Merck Ebola vaccine doses available**

Information on the expected number of doses of Merck Ebola vaccine scheduled for delivery were provided by ASPR/BARDA (Figures 1 and 2) on 09 October 2019. These estimates include doses projected to be made available from October 2019 through July 2020.

### **Calculation of total number of doses needed**

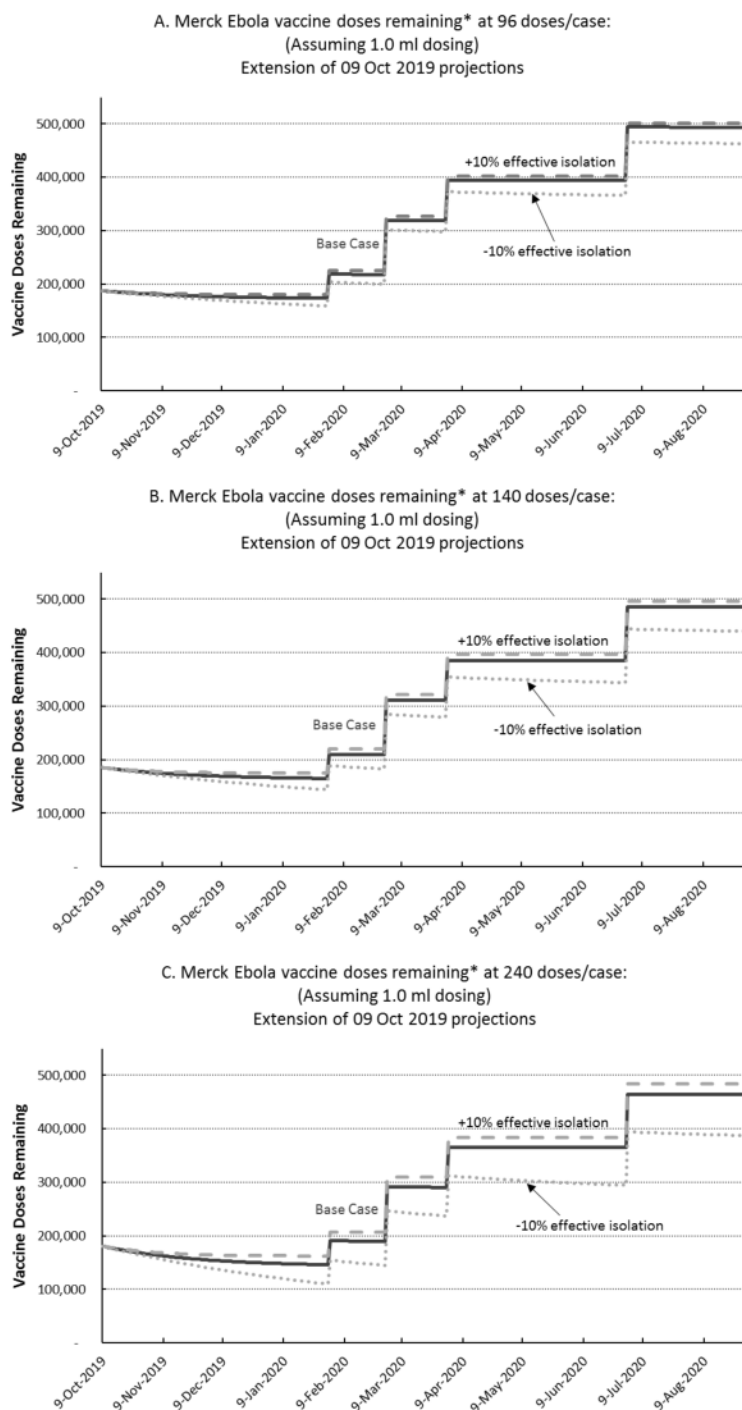
To calculate the future number of Merck Ebola vaccine doses needed, we took the estimated cumulative total cases and subtracted the 3,207 Ebola cases reported up to 08 October 2019 (Table 2). This provided the estimates of future cases. We then multiplied the estimated future number of cases by the three scenarios of vaccination tactics (i.e., by either 96 doses per case, 140 doses per case, or 240 doses per case).

### **Impact on Merck Ebola vaccine supply of dose sparing recommendations**

To calculate the impact of all persons being vaccinated with ½ dose (0.5 ml per person vaccinated), we multiplied the remaining Merck vaccine supply by 2. Note that the plots shown in Figure 2 assume that all remaining Merck vaccine doses are subject to dose-sparing tactics. We did not consider the impact of logistics needed to implement such dose sparing strategy, nor the potential for additional wastage. Thus, the plots show maximum possible impact on vaccine supply.

## APPENDIX 1: Supplemental Figures

**Figure A1. Merck Ebola vaccine 1.0 ml doses remaining\*<sup>§</sup>: 09 October 2019 case projections**



\* Extension of 09 October 2019 case projections using reported case data up to 08 October 2019 and estimating future cases assuming 65% of cases will be effectively isolated and not infect other people (i.e., interventions are 65% effective).

<sup>§</sup> Vaccination strategies: The lower estimates of vaccine doses needed was set at 96 vaccine doses per case, representing a “ring vaccination” tactic. The upper estimate of 240 vaccine doses per case represents a “geographic-based” tactic. The estimate of 140 doses/case is a “mixed-use” vaccination tactic, and is based on a mixture of the two other tactics, assuming 30% of doses are administered using a geographic-based tactic, and 70% are administered using a ring vaccination tactic. All three vaccine use scenarios include an assumed 10% vaccine wastage and 20% increases in doses needed. See Table 1 and Methods for further details.

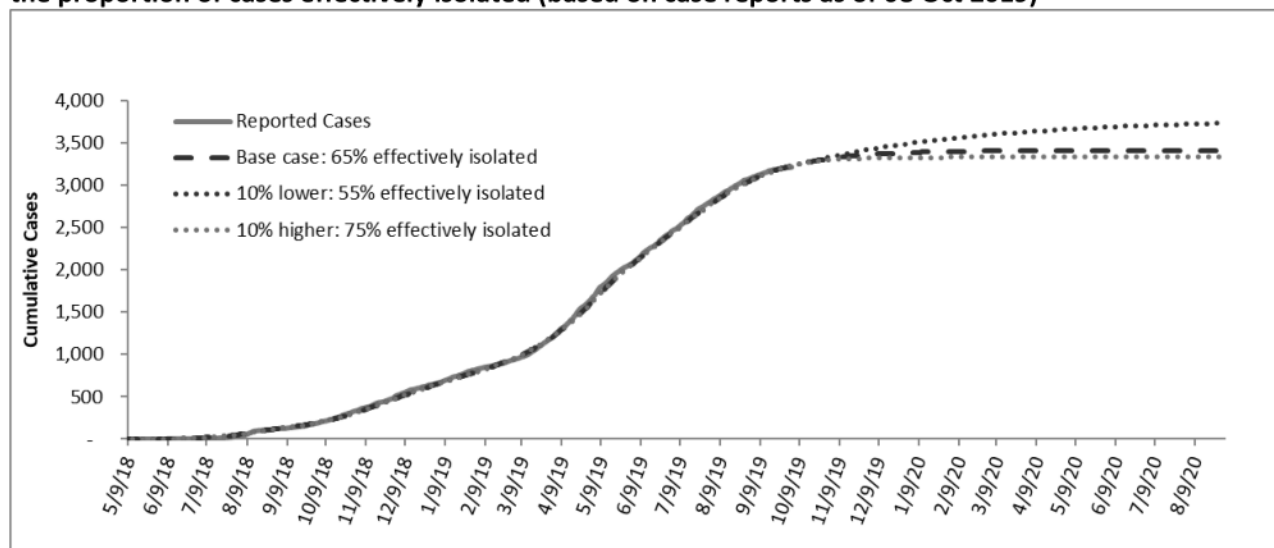
## APPENDIX 2: Estimates of number of Ebola cases

We used the EbolaResponse model (available at <http://dx.doi.org/10.15620/cdc.24900>) to determine the proportion of Ebola cases in two categories:

1. Patients effectively isolated (i.e., either by placement in an Ebola Treatment Unit and/ or their contacts and contacts-of-contacts are effectively vaccinated, so as to prevent onward transmission), such that there is a reduced risk of disease transmission
2. Patients not effectively isolated, such that there is continued risk of onward transmission.

Estimates of the proportions of cases in these categories were produced by fitting the modeled data to the actual confirmed/probable cumulative case counts from DRC provided by the Goma Analytic Cell, which reports to the DRC Ministry of Health's Emergency Operations Center. These estimates are updated every two weeks. The estimates of Merck Ebola vaccine need shown in this memo are based on estimates of future cases produced on 09 October 2019, using data reported through 08 October 2019.

**Figure A2. Projected cumulative number of Ebola cases through 31 August 2020, without\* improvements in the proportion of cases effectively isolated (based on case reports as of 08 Oct 2019)**



\*Ebola case estimates based on reported Ebola cases up to 08 October 2019, and then projecting forward assuming 65% of Ebola cases are effectively isolated (and thus prevent onward transmission), and that there are no improvements in interventions.

**Table A1. Estimated number of cases and projected end date of Ebola outbreak, January 2019 – October 2019.**

Outbreak Days	Dates	Estimated proportion of cases in effective isolation
241-270	31 Dec 2018 – 29 Jan 2019	50%
271-300	30 Jan – 28 Feb 2019	38%
301-330	1 Mar – 30 Mar 2019	33%
331-360	31 Mar – 29 Apr 2019	40%
361-390	30 Apr – 29 May 2019	57%
391-420	30 May – 28 June 2019	50%
421-450	29 June – 28 July 2019	52%
451-480	29 July – 27 Aug 2019	59%
481-510	28 Aug – 26 Sep 2019	65%
511-540	27 Sep – 26 Oct 2019	65%

## METHODS: EbolaResponse Tool and Model overview

We built a spreadsheet-based model, called EbolaResponse, that allows a user to estimate the number of Ebola cases in the DRC and the proportion of cases that are effectively isolated such that onward Ebola transmission is prevented (1).

### **Type of model:**

Our model, EbolaResponse, tracks patients through the following states: Susceptible (not yet infected); infected people incubating Ebola virus (but not yet infectious), infectious, recovered or dead (an SIIR model). The model is in effect, a Markov Chain model, and is similar in concept to that built by Chowell et al. (2). The one exception is that Chowell et al. included a state labeled “Exposure” and did not include our “incubating but not infectious category”.

We use probabilities, drawn from reports of Ebola outbreaks, to model the daily movement of patients between and within the states. For example, for duration of incubation period, we adapted data from (3), which indicates the probability (likelihood) that patients will incubate 1, 2, 3 or more days, up to a maximum of 25 days (see below).

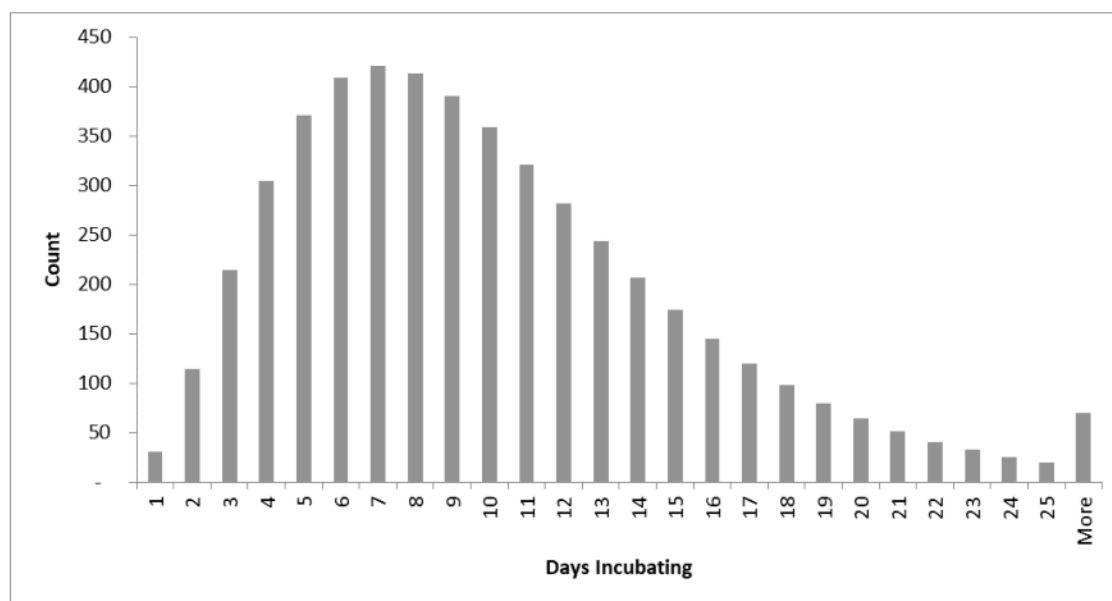
*Progression only:* A patient can only progress forward through the model, and can never regress (e.g., can never go from incubating back to susceptible). Nor can a patient skip a state (e.g., go from incubating to recovered, skipping infectious).

*Community size:* We used a community size of 78.7 million people (the estimated 2016 national population of the DRC, (3). The community size can be readily altered in the model.

*Incubation period:* We adapted published *probability distribution* data (3) to construct a gamma probability distribution of incubating with Ebola (Figure A3 and Table A2). We use a mean incubation period of 10.02 days (3).

Previous data from a 1995 outbreak in the Democratic Republic of the Congo (formerly Zaire) and a 2000 outbreak in Uganda (2), estimated mean incubation periods of 5.30 (SD 0.23) and 3.35 (SD 0.49) days, respectively. These appear to be lower than other published estimates (5, 6). Some of the differences may be attributable to different sub-types of the virus (5). Within the EbolaResponse model, the probability distribution for incubation can be readily changed to almost any structure desired, with an upper limit of 25 days incubation.

**Figure A3. Frequency distribution of probability of incubating with Ebola for a population = 5,000\***



\* Source: Adapted from (3).

**Table A2. Frequency distribution of probability of incubating with Ebola**

<i>Days</i>	<i>Frequency</i>	<i>Percent</i>	<i>Cumulative Percent</i>	<i>Days</i>	<i>Frequency</i>	<i>Percent</i>	<i>Cumulative Percent</i>
1	31	0.6%	0.2%	14	207	4.1%	79.6%
2	114	2.3%	1.6%	15	174	3.5%	83.4%
3	215	4.3%	4.9%	16	145	2.9%	86.6%
4	305	6.1%	10.1%	17	120	2.4%	89.2%
5	371	7.4%	16.9%	18	98	2.0%	91.4%
6	409	8.2%	24.7%	19	79	1.6%	93.2%
7	421	8.4%	33.1%	20	64	1.3%	94.6%
8	413	8.3%	41.5%	21	51	1.0%	95.7%
9	391	7.8%	49.5%	22	60	1.2%	96.7%
10	358	7.2%	57.0%	23	50	1.0%	97.4%
11	321	6.4%	63.8%	24	45	0.9%	98.0%
12	282	5.6%	69.8%	25	35	0.7%	98.4%
13	243	4.9%	75.1%				
				Totals	5,000	100.0%	

Source: Adapted from (3).

#### *Infectious period:*

Based on WHO data, we used an infectious period of 6 days (3). This would include any time taken for a traditional burial. Chowell et al, using data from a 1995 outbreak in the Democratic Republic of the Congo (formerly Zaire) and a 2000 outbreak in Uganda, estimated mean infectious periods of 5.6 and 3.35 days, respectively (2). This period of 6 days includes all stages of symptomatic illness. It is true that patients may be symptomatic for longer periods (see 3) but being symptomatic is different than having the risk of onward transmission.

Note that the risk of onward transmission, absent effective isolation, does change as a patient becomes sicker (7, 8). However, EbolaResponse does not track individual patients. Instead, the model employs aggregate (e.g., mean) risk of onward transmission, aggregated over the entire period of symptomatic illness (1).

*Potential risk:* The following description from northern Uganda indicates the potential risk, due to possible contact with a victim's body fluids, posed by traditional burial of an Ebola victim: "A brief study indicated that once a person died, his or her paternal aunt (father's sister) was called to wash and prepare the body for burial. If the father did not have a sister, an older woman in the victim's patriline was asked to prepare the body. Generally, the woman removed the clothes from the body, washed the body, and dressed the deceased in a favorite outfit. At the funeral, all family members ritually washed their hands in a common bowl, and during open casket all were welcome to come up to deceased person and give a final touch on the face or elsewhere (called a love touch). The body was then wrapped in a white cloth or sheet and buried." (9)

#### *Population "governor"*

Although we explicitly don't include an "exposed" population element in the model, we do include a population "governor" that prevents the model from calculating more cases than the inputted population. This "over-calculation" could happen if one assumes that there is a relatively large percentage (defined below) of the population that become infected and are not effectively isolated, presenting a risk of onward disease transmission.

We programmed the governor by simply reducing the daily estimate of the persons newly infected proportionate to the cumulative reduction in the susceptible population, as follows:

Factor to reduce estimate of newly infected at Day  $t$  = (Model population – cumulative total of newly infected up to day  $(t-1)$ ) / model population.

What this "governor" essentially does is to reduce, on a daily basis, the effective number of persons infected (i.e., effectively lowers the risk of transmission inputs shown in Table A3). In most instances, with "large populations," this

governor is unlikely to impact the calculations. The “governor” only begins to appreciably impact estimates (i.e., reduce them) when approximately 40% - 50% of the population have become infected.

#### *Population and numbers initially infected*

Country: The Democratic Republic of the Congo

Total Population: 78.7 million

Number Initially Infected: 1

#### *Distribution of patient by category over time*

As explained in the main text, we split the patients into two categories of isolation, as follows:

1. Patients effectively isolated (i.e., hospitalized in ETCs or otherwise receiving medical care), such that there was reduced contact with others and a reduced risk of disease transmission.
2. Patients not effectively isolated, such that there was continued risk of onward transmission.

We explain how we calculate the percentage of patients in each category in the “goodness-of-fit” sub-section (below).

The risk of onward transmission from an Ebola patient to susceptible persons, by patient category, is shown in Table A3.

The distribution of patients into these categories affects the overall progress of the epidemic. The more patients in the “effectively isolated” category, the slower the progress of the epidemic because this category has a transmission rate of less than 1 person infected per infectious person. The distribution of patients into these categories, and how we changed those distributions over time, is shown in Table A1.

**Table A3. Risk of onward transmission by category of patient: Values fitted to data compared to those in the literature**

Patient category	Daily risk of onward transmission		Total numbers infected per infectious person**	
	Values from literature (95% CI) <sup>†</sup>	Values used to fit to data in DRC*	Values from literature (95% CI)	Model estimates
Effectively isolated	DRC 0.1134 (0.00001 – 0.5842)	0.03	DRC 0.4 (0 – 2.2)	0.18
	Uganda 0.0017 (0.0 – 0.918)		Uganda 0.01 (0 – 3.5)	
No effective isolation	DRC 1.0932 (0.00001 – 1.4281)	0.3	DRC 1.8 (0 – 2.3)	1.8
	Uganda 0.066 (0.0 – 3.0367)		Uganda 0.1 (0 – 3.2)	

\* These are the values used in the model in order to obtain a “good fit” to the data-to-date.

\*\* Values of “Total number of persons infected per infectious person”: When these values remain below 1 person infected per infectious person, then the epidemic will eventually end. For model: These are the equivalent values used to fit the model to the data, assuming 6 days of infectiousness (e.g.,  $0.3 \times 6 = 1.8$  persons infected per infectious person as per model fit)

<sup>†</sup> Values adapted from weekly values given by Legrand et al (6), from Ebola outbreaks in 1995 in Democratic Republic of Congo (DRC) (formerly Zaire), 2000 in Uganda. CI = Confidences Intervals.

<sup>††</sup> We used, as proxies for “effective isolation,” Legrand et al.’s measurements of “community component” (without burial) from DRC, as these were below 1.

Source; Adapted from Legrand et al., 2007 (6).

#### *Goodness-of-Fit:*

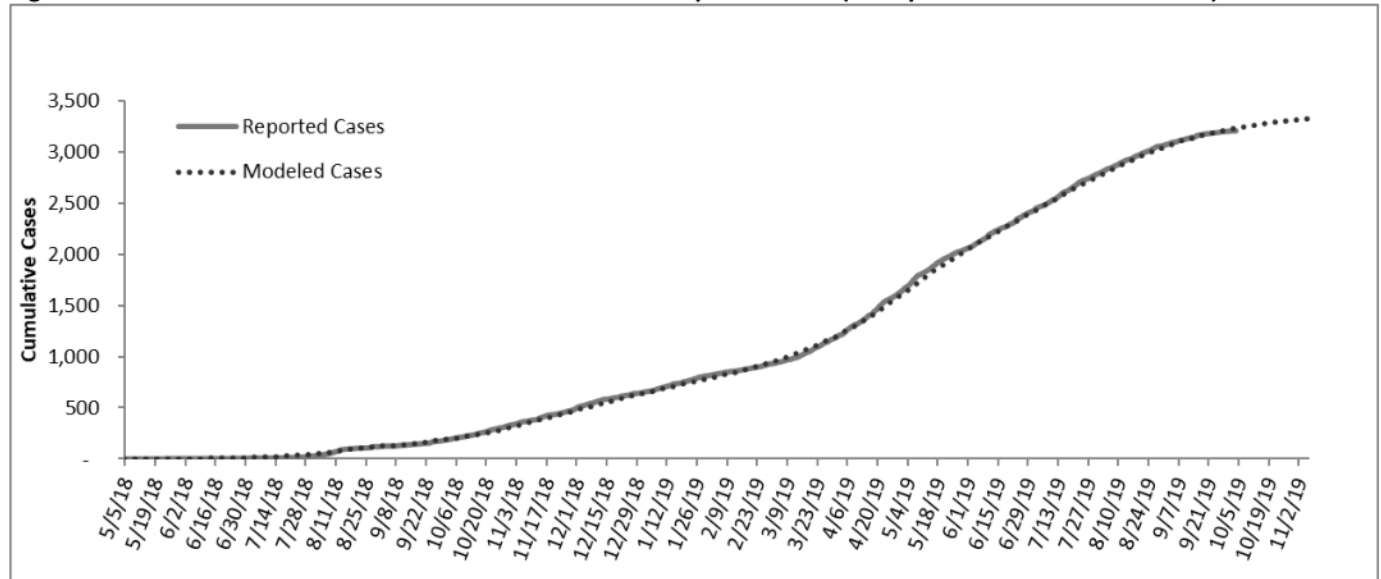
##### *Scenarios: Fitting to the existing data*

For the original conception of the model, we essentially “reverse engineered” the following variables:

- i) Percentage of patients in each of the categories (effectively isolated; No effective isolation), with percentages changing over time (increments of 30 days) (see Appendix Table A1).
- ii) Risk of transmission by type of patient, with daily risk of onward transmission changing over time (increments of 30 days) (see Appendix Table A3).

For the purpose of this analysis, we held fixed the previously used values for risk of transmission and only varied the percentage of patients in each of the three categories. Essentially, we “balance” the percentages in “effectively isolated” and “NOT effectively isolated” until the plot of the model “fits” the plot of the actual data. Figure A4 shows the goodness-of-fit, comparing estimates of cases produced using EbolaResponse model to the reported confirmed and probable Ebola cases.

**Figure A4. Goodness of fit: Model estimates of cases versus reported cases (4 May 2018 to 2 November 2019)**



## **APPENDIX 3: Log of changes to previous memo versions**

### **Changes from V1.10 to V1.11**

- Extended the projections to 31 August 2020.
- Updated case projections using epidemiologic data available through 8 October 2019 provided by the Goma Analytic Cell, which reports to the DRC Ministry of Health's Emergency Operations Center.
- Updated estimates of vaccine supply using the information provided by Dan Wolfe (DHHS/ASPR/BARDA) on 9 October 2019.
- Updated number of doses used per Ebola case based on number of cases and vaccinations provided as of 6 October 2019.
- Clarified that the vaccine doses in this memo refer to Merck Ebola vaccine.

### **Changes from V1.9 to V1.10**

- Updated case projections using epidemiologic data provided by DGHP on 03 July 2019
- Updated estimates of vaccine supply. Previously, estimates of Ebola vaccine were provided in terms of "total supply", absent any adjustments for doses shipped and/ or used. When considering estimates of need of doses in future, we made adjustments to vaccine supply by accounting for doses already administered. In this version, estimates of total remaining supply were given after adjustments made for doses already shipped (information provided by Gary Disbrow, DHHS/ASPR/BARDA). We thus adjusted our method of calculating future doses, by no longer accounting for doses administered-to-date (c.f., Figure 1 and 2).
- Removed 0.2 ml dose sparing strategy. Rationale: The likelihood of the 0.2ml dose being used in the field now appears remote.

### **Changes from V1.8 to V1.9**

- Updated case projections using epidemiologic data provided by DGHP on 5 June 2019
- Updated number of vaccine doses used to those used as of 5 June 2019
- Updated number of doses used per Ebola case based on number of cases and vaccinations provided as of 5 June 2019, using a 10% vaccine wastage rate (changed from 20% wastage in previous memo versions), and inflation for vaccination of pregnant and lactating women and infants over 6 months of age
- Updated the dose-sparing strategy

### **Changes from V1.7 to V1.8**

- Updated case projections using epidemiologic data provided by DGHP on 8 May 2019
- Updated number of vaccine doses used
- Added Figure showing estimated vaccine supply and dates of depletion using 2 dose-sparing strategies based on WHO SAGE committee recommendations
- Removed content pertaining to vaccination of pregnant/lactating women and infants

### **Changes from V1.6 to V1.7**

- Updated case projections using epidemiologic data provided by DGHP on 10 April 2019
- Updated number of vaccine doses used
- Added table showing estimated date when vaccine supply is depleted for combinations of vaccination strategies and proportions of cases in effective isolation

### **Changes from V1.5 to V1.6**

- Updated case projections using epidemiologic data provided by DGHP on 22 March 2019
- Included additional scenario(s) based on expanded vaccination guidelines to include pregnant and lactating women and children < 1 year of age.
- Updated estimates of vaccine supply (information provided by Gary Disbrow, BARDA)

### **Changes from V1.2b to V1.5**

- Updated case projections using data from Case Projection Memo 3.1 (dated 31 January 2019)



- Estimated vaccine needs based on 40%, 45%, 50% and 60% of Ebola cases being effectively isolated

**Changes from V1.2a to V1.2b**

- Updated estimates of vaccine supply (information provided by Gary Disbrow, BARDA) and extended projections to 1 November 2019

## REFERENCES

1. Meltzer MI, Atkins CY, Santibanez S, Knust B, Petersen BW, Ervin ED, Nichol ST, Damon IK, Washington ML, 2014. Estimating the future number of cases in the Ebola epidemic --- Liberia and Sierra Leone, 2014–2015. *MMWR Surveill Summ* 2014;63:1-14.
2. Chowell G, Hengartner NW, Castillo-Chavez C, Fenimore PW, Hyman JM. The basic reproductive number of Ebola and the effects of public health measures: the cases of Congo and Uganda. *J Theor Biol.* 2004 Jul 7;229(1):119-26.
3. WHO Ebola Response Team. Ebola virus disease in West Africa--the first 9 months of the epidemic and forward projections. *N Engl J Med.* 2014 Oct 16;371(16):1481-95.
4. United Nations DoEaSA, Population Division. World Population Prospects: The 2017 Revision, custom data acquired via website. 2017 [cited 10 October 2018]; Available from: <https://population.un.org/wpp/DataQuery/>
5. Eichner M, Dowell SF, Firese N. Incubation period of Ebola hemorrhagic virus subtype zaire. *Osong Public Health Res Perspect.* 2011 Jun;2(1):3-7.
6. Legrand J, Grais RF, Boelle PY, Valleron AJ, Flahault A. Understanding the dynamics of Ebola epidemics. *Epidemiol Infect.* 2007 May;135(4):610-21.
7. Lindblade KA, Nyenswah TG, Keita S, Diallo B, Kateh F, Amoah A, et al. Secondary Infections with Ebola Virus in Rural Communities, Liberia and Guinea, 2014–2015. *Emerg Infect Dis.* 2016;22(9):1653-1655. <https://dx.doi.org/10.3201/eid2209.160416>.
8. Lindblade KA, Kateh F, Nagbe TK, Neatherlin JC, Pillai SK, Attfield KR, et al. Decreased Ebola Transmission after Rapid Response to Outbreaks in Remote Areas, Liberia, 2014. *Emerg Infect Dis.* 2015;21(10):1800-1807. <https://dx.doi.org/10.3201/eid2110.150912>.
9. Hewlett BS, Amola RP. Cultural contexts of Ebola in northern Uganda. *Emerg Infect Dis.* 2003;9(10):1242-8.
10. Soucheray S. No 'reset' with Ebola outbreak, WHO official says. June 06, 2019. Available at: [cidrap.umn.edu/news-perspective/2019/06/no-reset-ebola-outbreak-who-official-says](http://cidrap.umn.edu/news-perspective/2019/06/no-reset-ebola-outbreak-who-official-says) (accessed 04 July 2019).
11. Branswell H. WHO sees progress in Ebola response, but others see a grimmer reality. June 06, 2019. Available at: <https://www.statnews.com/2019/06/06/who-sees-progress-in-ebola-response-but-others-see-a-grimmer-reality/> (accessed 04 July 2019).
12. Frieden TR, Damon IK. Ebola in West Africa--CDC's Role in Epidemic Detection, Control, and Prevention. *Emerg Infect Dis.* 2015; 21:1897-1905.

## **Decision Brief: Increased Use of Targeted Geographic Vaccination Strategy in the Ebola Outbreak Response in the Democratic Republic of Congo (DRC)**

### Decision Point:

To reach consensus on increasing the utilization of targeted geographic vaccination to supplement ongoing ring vaccinations in areas of persistent Ebola transmission, with the goal of disrupting chains of transmission.

### Introduction:

The current Ebola outbreak in North Kivu and Ituri Provinces is ongoing since 2018, with nine health zones still reporting cases within the past 21 days (as of Oct 31, 2019). The pre-emptive vaccination of front-line health care workers and the implementation of ring vaccination in DRC has been important in interrupting disease transmission. Vaccination efforts in DRC are consistent with April 2019 SAGE recommendations<sup>1</sup>. The SAGE recommendations also include the use of targeted geographic vaccination when ring vaccination is substantially delayed, or accurate surveillance to support effective contact tracing is not possible.

*Triggers for Targeted Geographic Vaccination:* Currently, key “trigger conditions” have been met, in a health area such as Biakato Mines, that indicate the need to supplement ring vaccination activities with targeted geographic vaccination. These already met triggers include a notable percent of cases still being identified 4 or more days after symptom onset, active transmission with multiple unlinked chains of transmission, >50% of cases not known to be contacts at the time of identification, elevated risk of cases traveling to other locales and starting new chains of transmission, and difficulties due to ongoing lack of security that prevent contact tracing teams being able to adequately identify and follow contacts. These already activated triggers, singly or together, create delays in identification of clinical cases, the start of vaccination rings, and prevent rapid and thorough contact tracing efforts.

*Current risk and epidemiological situation:* There continues to be active transmission in DRC that is concentrated in Mandima health zone, particularly in the Biakato Mines health area. From Oct 2-22, 85% of cases had epidemiological links to Biakato mines in the Mandima health zone, with 36% of contacts known and followed, 24% of cases isolated early, and 32% community deaths compared to 44% contacts known and followed, 47% of cases isolated early and 15% community deaths nationwide. Given security and access challenges, improving contact tracing in order to implement effective ring vaccinations will be difficult and shifting resources to implementing a targeted geographic vaccination strategy is recommended.

This health area presents significant response challenges including mobile populations and lack of access due to security concerns; this has hindered timely case investigations, contact tracing, and public health response measures. These factors have resulted in delayed, low, and inaccurate contact tracing, causing difficulties in effectively implementing the ring vaccination strategy in these areas. Given the adverse effect on response activities, especially the challenges to contract tracing, targeted geographic vaccination should be considered.

### Objectives for Strategy:

Increasing the use of a targeted geographic vaccination strategy with rVSV-ZEBOV (Merck) vaccine in areas with continued, persistent, active transmission with access or security issues is intended to:

- Address challenges due to difficult and delayed contact tracing or delayed ability to implement or complete ring vaccination by vaccinating a target population in a specific geographic area, creating a geographic “ring” around a confirmed case.

---

<sup>1</sup> SAGE Recommendations on Vaccination against Ebola Virus Disease (EVD), April 4, 2019:  
[https://www.who.int/immunization/sage/meetings/2019/april/6\\_SAGE\\_April\\_2019\\_Ebola\\_Henao.pdf?ua=1](https://www.who.int/immunization/sage/meetings/2019/april/6_SAGE_April_2019_Ebola_Henao.pdf?ua=1)

- Address the challenge of under-reporting of cases and low contact tracing, as the ring vaccination strategy would have limited effectiveness in this scenario.
- Protect other health zones by breaking the chains of transmission due to a highly-mobile population, targeted geographic vaccination provides an opportunity to stop transmission and move closer to ending the outbreak.

#### Anticipated Impact and Outcomes:

By shifting resources from the current ring vaccination strategy to include targeted geographic vaccination, the response efforts would focus on creating a geographic ring around the “hotspot” in order to reduce the risk of possible cases traveling outside the affected area and continuing transmission of EVD. As shown in map 2 in Appendix A, cases originating from the current hotspot in Biakato Mines are traveling to unaffected areas and continuing transmission. This shift in approach provides a way toward addressing the last cases of the outbreak.

#### Estimate of Resources Needed:

*Target Population:* The health zone of Mandima has a population estimated at 60,000 individuals with an estimated 21,789 individuals residing in Biakato Mines. The current resources, however, in country and logistical concerns suggest that targeting the entire health zone of Mandima is unrealistic.

*Identifying numbers needed to vaccinate:* Assuming 20-25 new cases per week, there will be approximately estimated 80-100 cases in one month. Further assuming, based on WHO SAGE recommendations, that targeted geographic vaccination results in 200-300 individuals vaccinated per case. Then, approximately **20,000 - 30,000 individuals** would be vaccinated by using a targeted geographic vaccination strategy in the Biakato Mines area.

*Logistical and capacity considerations:* Vaccination teams have administered up 1000-1500 vaccinations per day throughout DRC. Given that 80% of new cases are linked to Biakato Mines, if 80% of the current vaccination team resources were to be shifted to targeted geographic vaccination program in and around Biakato Mines, then approximately 800-1200 vaccinations could potentially be administered per day. Note this re-allocation of vaccination teams should not require hiring of notable numbers of additional vaccination team staff.

*Timeframe:* If human and logistical resources are shifted, as described above, to focus on targeted geographic vaccination of the Biakato Mines area, then it would take **4-6 weeks** to vaccinate the estimated 20,000 - 30,000 persons.

*Vaccine Stock:* As part of ongoing ring vaccination activities, 241, 601 individuals have been vaccinated as of October 22, 2019 with the remaining Merck vaccine doses in the field being 15,510<sup>2</sup>. Based on current outbreak projections, an estimated 19, 609 Merck vaccine doses will be needed through Aug. 31, 2020 for the ring vaccination strategy and an estimated 28,597 to 49,023 doses will be needed for a geographic-based vaccination strategy<sup>3</sup>. The currently projected Merck vaccine stock should be sufficient for both ring and targeted geographic vaccination strategies to occur in DRC.

#### Proposed next steps:

With agreement on increasing the use of targeted geographic vaccination, coordination with the Ministry of Health, WHO, and other key partners will be needed to ensure their agreement, and then to create a more detailed implementation plan with standard operating procedures (SOPs) that is flexible in order to adapt to a dynamic context. The plan should include human resource needs, communications and community engagement strategies, as well as security and logistical considerations. The estimates and locations presented in this decision brief are exploratory estimates will need to be updated and scaled based on additional microplanning and information from the field.

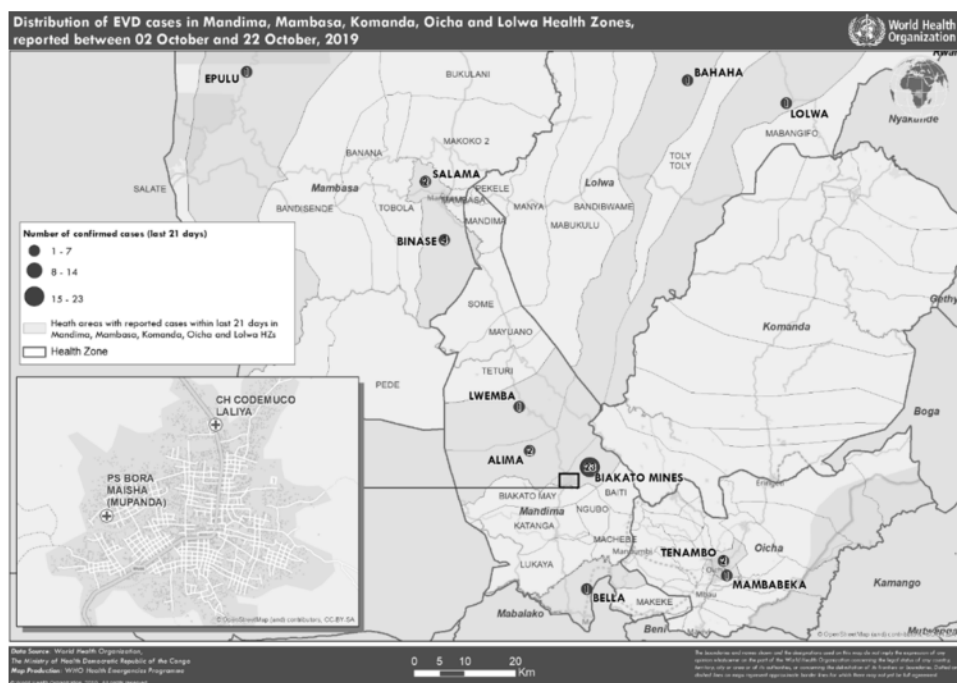
---

<sup>2</sup> EVD DRC USG Sitrep 82\_24\_October\_2019

<sup>3</sup> Vaccine Memo v1.11 Oct 2019 supply late breaker

## Appendix A: From Ebola DRC 09.00 AEM 20192410 final; DRC Data Pack from WHO

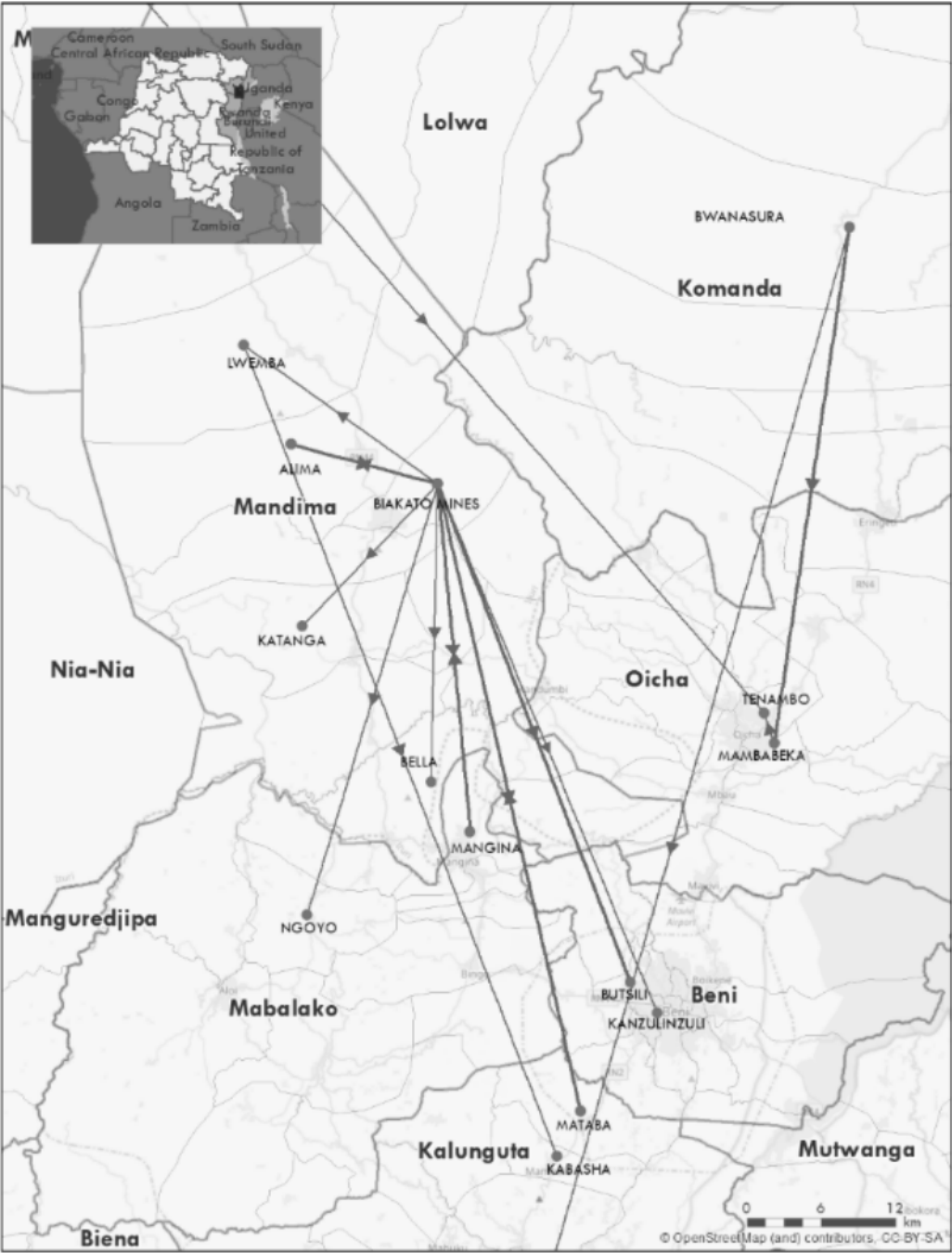
**Map 1:** Distribution of Ebola vaccine disease (EVD) in Mandima, Mambasa, Komanda, Oicha, and Lolwa Health Zones, reported between 02 October and 22 October 2019



**Table 1:** Cases of Ebola vaccine disease (EVD) reported by Health Areas between 02 October and 22 October 2019

Health area: village/quartier	No. of cases reported (%)	
	Overall	Last 21 days (2-22 Oct)
<b>biakato_mine</b>	<b>85 (26%)</b>	<b>23 (85%)</b>
Ialia	9 (3%)	9 (33%)
mupanda	11 (3%)	6 (22%)
vubali	2 (1%)	2 (7%)
bangole	2 (1%)	1 (4%)
yosefu	1 (0%)	1 (4%)
other	16 (5%)	-
(missing)	44 (13%)	4 (15%)
<b>alima</b>	<b>29 (9%)</b>	<b>2 (7%)</b>
nduma	2 (1%)	2 (7%)
other/missing	27 (8%)	-
<b>bela</b>	<b>4 (1%)</b>	<b>1 (4%)</b>
nziapanda	1 (0%)	1 (4%)
other/missing	3 (1%)	-
<b>lwemba</b>	<b>44 (13%)</b>	<b>1 (4%)</b>
makale	1 (0%)	1 (4%)
other/missing	43 (13%)	-
<b>katanga</b>	<b>45 (14%)</b>	-
<b>some</b>	<b>45 (14%)</b>	-
<b>biakato_mayi</b>	<b>22 (7%)</b>	-
<b>mayuano</b>	<b>18 (5%)</b>	-
<b>makeke</b>	<b>16 (5%)</b>	-
<b>other health areas</b>	<b>23 (7%)</b>	-
<b>Total</b>	<b>331 (100%)</b>	<b>27 (100%)</b>

**Map 2:** Mobility of cases originating at Biakato Mines between 02 October and 22 October 2019



## Ebola MCM Scientific Working Group Agenda

**Tuesday, November 5, 2019; 10:30 AM (ET); Dial in – 202-774-2300 / Access code – 996 714 553**

**Meeting Objective:** This meeting is intended to provide a forum for discussion of current and anticipated issues that will inform the HHS and PHEMCE strategy to meet the Medical Countermeasures (MCM) objectives outlined in section 5.0 of the HHS Ebola Response Improvement Plan Progress Report (Jan 2017). As such, areas of focus will be the use of MCMs to respond to the current outbreak in the Democratic Republic of the Congo and to ensure domestic preparedness, including:

- Fostering a joint understanding of MCM performance characteristics and developing USG viewpoint on proper use case for each
- Identifying gaps in MCM-related knowledge and defining the research agenda and plan to fill those gaps
- Identifying regulatory issues related to licensure and pre-licensure deployment of MCMs
- Projecting supply needs, outlining manufacturing options for MCMs and determining budgetary implications

All participants are strongly encouraged to suggest topics for discussion to ensure that this meeting is well positioned to meet the individual needs of each of the PHEMCE members. The Assistant Secretary for Preparedness and Response (ASPR) has confirmed that this meeting is being conducted under the PHEMCE Memorandum of Understanding and is subject to its requirements for confidentiality. Meeting agendas and a brief but comprehensive report summarizing the discussion and action items will be prepared by BARDA and provided to the ASPR following each meeting.

Participants		
<b>BARDA</b> David Boucher ( <a href="mailto:david.boucher@hhs.gov">david.boucher@hhs.gov</a> ) Carol Diaz-Diaz ( <a href="mailto:carol.diaz-diaz@hhs.gov">carol.diaz-diaz@hhs.gov</a> ) Gary Disbrow ( <a href="mailto:gary.disbrow@hhs.gov">gary.disbrow@hhs.gov</a> ) Craig Hughes ( <a href="mailto:craig.hughes@hhs.gov">craig.hughes@hhs.gov</a> ) Mike Merchlinsky ( <a href="mailto:michael.merchlinsky@hhs.gov">michael.merchlinsky@hhs.gov</a> ) Carol Sabourin ( <a href="mailto:carol.sabourin@hhs.gov">carol.sabourin@hhs.gov</a> ) David Simon ( <a href="mailto:david.simon@hhs.gov">david.simon@hhs.gov</a> ) Marva Taylor ( <a href="mailto:marva.taylor@hhs.gov">marva.taylor@hhs.gov</a> ) Danielle Turley ( <a href="mailto:danielle.turley@hhs.gov">danielle.turley@hhs.gov</a> ) Bob Walker ( <a href="mailto:robert.walker@hhs.gov">robert.walker@hhs.gov</a> ) Dan Wolfe ( <a href="mailto:daniel.wolfe2@hhs.gov">daniel.wolfe2@hhs.gov</a> ) Amanda Zarrabian ( <a href="mailto:amanda.zarrabian@hhs.gov">amanda.zarrabian@hhs.gov</a> )	<b>FDA</b> Deb Birnkrant ( <a href="mailto:debra.birnkrant@fda.hhs.gov">debra.birnkrant@fda.hhs.gov</a> ) David Cho ( <a href="mailto:david.cho@fda.hhs.gov">david.cho@fda.hhs.gov</a> ) Andrew Gentles ( <a href="mailto:andrew.gentles@fda.hhs.gov">andrew.gentles@fda.hhs.gov</a> ) Marion Gruber ( <a href="mailto:marion.gruber@fda.hhs.gov">marion.gruber@fda.hhs.gov</a> ) Teresa Gutierrez-Lugo ( <a href="mailto:maria.gutierrezlugo@fda.hhs.gov">maria.gutierrezlugo@fda.hhs.gov</a> ) Philip Krause ( <a href="mailto:philip.krause@fda.hhs.gov">philip.krause@fda.hhs.gov</a> ) Michael Mair ( <a href="mailto:michael.mair@fda.hhs.gov">michael.mair@fda.hhs.gov</a> ) Peter Marks ( <a href="mailto:peter.marks@fda.hhs.gov">peter.marks@fda.hhs.gov</a> ) Gerald Poley ( <a href="mailto:gerald.poley@fda.hhs.gov">gerald.poley@fda.hhs.gov</a> ) Barbara Styrt ( <a href="mailto:barbara.styrt@fda.hhs.gov">barbara.styrt@fda.hhs.gov</a> ) Elizabeth Thompson ( <a href="mailto:elizabeth.thompson@fda.hhs.gov">elizabeth.thompson@fda.hhs.gov</a> )	
<b>NIH</b> Karin Bok ( <a href="mailto:karin.bok@nih.gov">karin.bok@nih.gov</a> ) Paula Bryant ( <a href="mailto:paula.bryant@nih.gov">paula.bryant@nih.gov</a> ) Elizabeth Higgs ( <a href="mailto:ehiggs@niaid.nih.gov">ehiggs@niaid.nih.gov</a> ) Julie Ledgerwood ( <a href="mailto:jumartin@niaid.nih.gov">jumartin@niaid.nih.gov</a> ) Hilary Marston ( <a href="mailto:hilary.marston@nih.gov">hilary.marston@nih.gov</a> ) Martha Nason ( <a href="mailto:mnason@niaid.nih.gov">mnason@niaid.nih.gov</a> ) Helen Schiltz ( <a href="mailto:helen.schiltz@niaid.nih.gov">helen.schiltz@niaid.nih.gov</a> ) Kim Taylor ( <a href="mailto:kimberly.taylor3@nih.gov">kimberly.taylor3@nih.gov</a> )	<b>CDC</b> Ray Arthur ( <a href="mailto:rca8@cdc.gov">rca8@cdc.gov</a> ) Rosalind Carter ( <a href="mailto:rdc6@cdc.gov">rdc6@cdc.gov</a> ) Mary Joung Choi ( <a href="mailto:whz2@cdc.gov">whz2@cdc.gov</a> ) Caitlin Cossaboom ( <a href="mailto:nrm9@cdc.gov">nrm9@cdc.gov</a> ) Benjamin Dahl ( <a href="mailto:bid5@cdc.gov">bid5@cdc.gov</a> ) Inger Damon ( <a href="mailto:iad7@cdc.gov">iad7@cdc.gov</a> ) David Fitter ( <a href="mailto:vid3@cdc.gov">vid3@cdc.gov</a> ) Rita Helfand ( <a href="mailto:rz7@cdc.gov">rz7@cdc.gov</a> )	Terri Hyde ( <a href="mailto:tkh4@cdc.gov">tkh4@cdc.gov</a> ) Emily Kahn ( <a href="mailto:ebk9@cdc.gov">ebk9@cdc.gov</a> ) Martin Meltzer ( <a href="mailto:gzm4@cdc.gov">gzm4@cdc.gov</a> ) Joel Montgomery ( <a href="mailto:ztq9@cdc.gov">ztq9@cdc.gov</a> ) Anita Samuel ( <a href="mailto:kyp8@cdc.gov">kyp8@cdc.gov</a> ) Henry Walke ( <a href="mailto:hfw3@cdc.gov">hfw3@cdc.gov</a> ) Yon Yu ( <a href="mailto:fk8@cdc.gov">fk8@cdc.gov</a> )
<b>ASPR</b> Ana Ayala ( <a href="mailto:ana.ayala@hhs.gov">ana.ayala@hhs.gov</a> ) Ruvani Chandrasekera ( <a href="mailto:ruvani.chandrasekera@hhs.gov">ruvani.chandrasekera@hhs.gov</a> ) Chris Hassel ( <a href="mailto:david.hassel@hhs.gov">david.hassel@hhs.gov</a> ) Robin Moudy ( <a href="mailto:robin.moudy@hhs.gov">robin.moudy@hhs.gov</a> ) CPT John Redd ( <a href="mailto:john.redd@hhs.gov">john.redd@hhs.gov</a> )	<b>Department of Defense</b> Julia Biggins ( <a href="mailto:julia.e.biggins.ctr@mail.mil">julia.e.biggins.ctr@mail.mil</a> ) Eric Deussing ( <a href="mailto:ncu0@cdc.gov">ncu0@cdc.gov</a> ) COL Jennifer Kishimori ( <a href="mailto:jennifer.m.kishimori@mail.mil">jennifer.m.kishimori@mail.mil</a> ) Clay Holloway ( <a href="mailto:carl.c.holloway.civ@mail.mil">carl.c.holloway.civ@mail.mil</a> ) Christa Madock ( <a href="mailto:christa.m.madock.civ@mail.mil">christa.m.madock.civ@mail.mil</a> )	CPT Suzanne Mate ( <a href="mailto:suzanne.e.mate@mail.mil">suzanne.e.mate@mail.mil</a> ) Nelson Michael ( <a href="mailto:nmichael@hivresearch.org">nmichael@hivresearch.org</a> ) Kayvon Modjarrad ( <a href="mailto:kmodjarrad@hivresearch.org">kmodjarrad@hivresearch.org</a> ) Nathan Pawlicki ( <a href="mailto:nathan.j.pawlicki.ctr@mail.mil">nathan.j.pawlicki.ctr@mail.mil</a> ) Inger-Marie Vilcins ( <a href="mailto:ivilcins@hivresearch.org">ivilcins@hivresearch.org</a> )
<b>OGA</b> Larry Kerr ( <a href="mailto:lawrence.kerr@hhs.gov">lawrence.kerr@hhs.gov</a> ) Collin Weinberger ( <a href="mailto:collin.weinberger@hhs.gov">collin.weinberger@hhs.gov</a> )		

**Agenda:**

- Meeting intro (DB, 5m)
- Geographic vaccination
  - Intro to the DLG request (JR)
  - Draft CDC Decision Brief (TH)
  - Group Discussion
- Clinical isolate availability & virus stock production (DB, if time permits)
- NSC & DLG meetings update (CW, 5m)
- Wrap up and review of new action items (DB, 5m)

**Action Items:**

Action Item	Date Initiated	Responsible Agency or Individual	Resolution
Organize a group offline that can further discuss survivor studies	August 13	CDC, NIH	Active item
Reach out to WHO to discuss submission of compassionate use protocols	October 8	OGA	Active item
Raise Tier 1 vaccine availability issue with Mike Ryan and WHO	October 29	OGA	Active item



<b>From:</b>	Kerr, Lawrence (HHS/OS/OGA) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE>
<b>SentVia:</b>	Lopez, Arnela (OS/OGA) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=505A8FE681584CA49E73F219976891AA-LOPEZ, ARNE>
<b>To:</b>	<p>Kerr, Lawrence (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE &lt;Lawrence.Kerr@hhs.gov&gt;;</p> <p>Weinberger, Collin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=641554fc7843407585827af5898d9c26-Weinberger, &lt;Collin.Weinberger@hhs.gov&gt;;</p> <p>Moudy, Robin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d421d3e0f6474bc3857583cfc5870d69-Moudy, Robi &lt;Robin.Moudy@hhs.gov&gt;;</p> <p>Chandrasekera, Ruvani (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=678d9ff8e02d477ab5d0516bd3659a34-Chandraseke &lt;Ruvani.Chandrasekera@hhs.gov&gt;;</p> <p>Ferrey, Seth (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2d976148be6c4ea5a25eeb0fd101809-Ferrey, Set &lt;Seth.Ferrey@hhs.gov&gt;;</p> <p>Aasen, Adam (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9df94b81b7f549e08c44a157bd583f5d-Aasen, Adam &lt;Adam.Aasen@hhs.gov&gt;;</p> <p>Snyder, Anne (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7410775a42a540bbb71438b93c600bc8-Snyder, Ann &lt;Anne.Snyder@hhs.gov&gt;;</p> <p>Olson, Leandra (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dac295d944ee4b67b464d7d5041bb916-Olson, Lean &lt;Leandra.Olson@hhs.gov&gt;;</p> <p>Schmeissner, Peter (HHS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ca385a113d96474289fae94d7ef94614-Schmeissner &lt;Peter.Schmeissner@hhs.gov&gt;;</p> <p>LaHood, Natalie (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d7d5e131fd394ab3b1b0eb6f232851f1-Lahood, Nat &lt;Natalie.Lahood@hhs.gov&gt;;</p> <p>Smith, Steven T (Geneva) &lt;SmithST1@state.gov&gt;;</p> <p>'SmithSR1@state.gov' &lt;SmithSR1@state.gov&gt;;</p> <p>Marks, Peter (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=df56588b970c43c8a9a2b9b31406746c-peter.marks &lt;Peter.Marks@fda.hhs.gov&gt;;</p> <p>Woodcock, Janet (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5f925e9a0f9147b186d40072d474d13d-janet.woodc &lt;Janet.Woodcock@fda.hhs.gov&gt;;</p> <p>Abdoo, Mark (FDA/OC) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d8893b91b3bd49b0978ac6b5d5423cd1-mark.abdoo. &lt;Mark.Abdoo@fda.hhs.gov&gt;;</p> <p>Disbrow, Gary (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0fd5845defda4dc0bb45f8fac629cf09-Disbrow, Ga &lt;Gary.Disbrow@hhs.gov&gt;;</p> <p>Houchens, Christopher (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7ac94a574bd04528b7c91bbd61893975-Houchens, C &lt;Christopher.Houchens@hhs.gov&gt;;</p> <p>Johnson, Robert (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0851e89240324306b78740a4a60745e2-Johnson, Ro &lt;Robert.Johnson@hhs.gov&gt;;</p> <p>'swaminathans@who.int' &lt;swaminathans@who.int&gt;;</p> <p>'ryanm@who.int' &lt;ryanm@who.int&gt;;</p> <p>'simonsons@who.int' &lt;simonsons@who.int&gt;;</p> <p>'simaom@who.int' &lt;simaom@who.int&gt;;</p> <p>'aylwardb@who.int' &lt;aylwardb@who.int&gt;;</p> <p>Messonnier, Nancy (CDC/DDID/NCIRD/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=eac7af7ae9754d4290d7aa8cdb537078-Rosenstein &lt;nar5@cdc.gov&gt;;</p> <p>Helfand, Rita (CDC/DDID/NCEZID/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=28a17ce03de24abbb3e9c9e1363c4017-Helfand, Ri &lt;rh7@cdc.gov&gt;;</p>

Hyde, Terri (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=653839b51d4442a7b5ad95e605761104-Hyde, Terri <tkh4@cdc.gov>;

Cohn, Amanda (CDC/DDID/NCIRD/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=592292f16e754034a268cecb6e2c3d29-Cohn, Amand <anc0@cdc.gov>;

Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=62643d5586b14f1798171ce903c12ea4-Montgomery, <ztq9@cdc.gov>;

Brooks, John T. (CDC/DDID/NCHHSTP/DHPSE) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1e50fbf05c64442fb27c1dd6897ea0a6-Brooks, Joh <zud4@cdc.gov>;

Mair, Michael (FDA/OC) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f3e2b23223bc4a1abecf698a4122f6c3-michael.mai <Michael.Mair@fda.hhs.gov>;

'matthew.j.hepburn.civ@mail.mil' <matthew.j.hepburn.civ@mail.mil>;

Mcqueen, COL Anthony (HHS/IOS) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ac168b9de8d04b0197d9839acff236c0-Mcqueen, An <Anthony.Mcqueen@hhs.gov>;

Smith, Michael (MIL) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c800c9096ab34f7da2dfd90f2e71ba-Michael.Smi <michael.w.smith93.mil@mail.mil>;

'sadam@fnih.org' <sadam@fnih.org>;

Lane, Cliff (NIH/NIID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=11a174ee688e426392d98ba9cd5e1945-cliff.lane. <CLANE@niaid.nih.gov>;

Ayala, Ana (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=80a408be55b14221a42c2b91002d6bf7-Ayala, Ana <Ana.Ayala@hhs.gov>;

Tracy Carson /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=33c7d84fb82a48eeba8f4e0be680df60-TracyCarson <CarsonTL@state.gov>;

'NANNEI, Claudia' <nanneic@who.int>;

'MCLIESH, Wendy Maree' <mclieshw@who.int>;

Fernandez, Jose (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=21d0317abb9f4d1bb2779f8b95826543-Fernandez, <Jose.Fernandez@hhs.gov>;

Burr, Mara (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1789c53bbdbf412b9b31cc59cbd4bda2-Burr, Mara <Mara.Burr@hhs.gov>;

Bleimund, Emily (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b229d23be0e24e03a3fd8244c450fb6b-Bleimund, E <Emily.Bleimund@hhs.gov>;

Tromberg, Bruce (NIH/NIBIB) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8296eab89a64486a841aa06f835d77e0-bruce.tromb <bruce.tromberg@nih.gov>;

Scharf, Sarah (NIH/OD) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d7be58c4b45c4e978f7614d7d73425f9-sarah.schar <sarah.scharf@nih.gov>

CC:

Gruber, Marion (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub <Marion.Gruber@fda.hhs.gov>;

Krause, Philip (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau <Philip.Krause@fda.hhs.gov>;

Thomas, Ashley (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6bcf9a5e75bc42dea48e4009c5342397-ashley.thom <Ashley.Thomas@fda.hhs.gov>;

'borgesa@who.int' <borgesa@who.int>;

Bugin, Kevin (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=55c4e5e4038442ff8866f40f603e52ce-kevin.bugin <Kevin.Bugin@fda.hhs.gov>;

Cho, David S (CBER) (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d79853f418ac488c9cd10b70d1e2b0f1-david.cho.f <David.Cho@fda.hhs.gov>;

Sizemore, Christine (NIH/FIC) [E] <christine.sizemore@nih.gov>;

	<p>Wholley, David (FNIH) [T] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=afc96d003f9d4a41831a2d77566ed34e-david.wholl &lt;dwholley@fnih.org&gt;;</p> <p>Melencio, Cheryl (FNIH) [T] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c543edb17906477e8a65d209f589fce1-cheryl.mele &lt;cmelencio@fnih.org&gt;;</p> <p>Donis, Ruben (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=af00dcf720cb429f8e2accbe06ee32ff-Donis, Rube &lt;Ruben.Donis@hhs.gov&gt;;</p> <p>Blatner, Gretta (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=623cb123c2324236b1db6fb9153e0bbf-Blatner, Gr &lt;Gretta.Blatner@hhs.gov&gt;;</p> <p>Heemskerk, Jill (NIH/NIBIB) [E] &lt;jill.heemskerk@nih.gov&gt;;</p> <p>Ella Nudell &lt;(b)(6)@georgetown.edu&gt;;</p> <p>Lamourelle, Gabrielle (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2cf3cb1a840847b3af0ea0c4d0d137c1-Lamourelle, &lt;Gabrielle.Lamourelle@hhs.gov&gt;;</p> <p>Yarielka Arrieta &lt;(b)(6)@gmail.com&gt;</p>
<b>Subject:</b>	USG-WHO MCM Dialogue Call
<b>Date:</b>	2020/05/20 15:21:32
<b>Start Date:</b>	2020/05/29 08:00:00
<b>End Date:</b>	2020/05/29 09:00:00
<b>Priority:</b>	Normal
<b>Type:</b>	Appointment
<b>Location:</b>	WebEx/ Zoom
<b>Attendees:</b>	<p>Kerr, Lawrence (HHS/OS/OGA); Weinberger, Collin (OS/OGA); Moudy, Robin (OS/OGA); Chandrasekera, Ruvani (OS/OGA); Ferrey, Seth (OS/OGA); Aasen, Adam (HHS/OS/OGA); Snyder, Anne (HHS/OS/OGA); Wood, Rachel (HHS/OS/OGA); Olson, Leandra (HHS/OS/OGA); Schmeissner, Peter (HHS/OGA); LaHood, Natalie (OS/OGA); Smith, Steven T (Geneva); 'SmithSR1@state.gov'; Marks, Peter (FDA/CBER); Woodcock, Janet (FDA/CDER); Abdoo, Mark (FDA/OC); Disbrow, Gary (OS/ASPR/BARDA); Houchens, Christopher (OS/ASPR/BARDA); Johnson, Robert (OS/ASPR/BARDA); 'swaminathans@who.int'; 'ryanm@who.int'; 'simonsons@who.int'; 'simaom@who.int'; 'aylwardb@who.int'; Messonnier, Nancy (CDC/DDID/NCIRD/OD); Helfand, Rita (CDC/DDID/NCEZID/OD); Hyde, Terri (CDC/DDPHSIS/CGH/GID); Cohn, Amanda (CDC/DDID/NCIRD/OD); Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP); Brooks, John T. (CDC/DDID/NCHHSTP/DHPSE); Mair, Michael (FDA/OC); 'matthew.j.hepburn.civ@mail.mil'; McQueen, COL Anthony (HHS/IOS); Smith, Michael (MIL); 'sadam@fnih.org'; Lane, Cliff (NIH/NIAID) [E]; Gruber, Marion (FDA/CBER); Krause, Philip (FDA/CBER); Thomas, Ashley (FDA/CDER); 'borgesa@who.int'; Bugin, Kevin (FDA/CDER); Cho, David S (CBER) (FDA/CBER); Sizemore, Christine (NIH/FIC) [E]; Wholley, David (FNIH) [T]; Melencio, Cheryl (FNIH) [T]; Donis, Ruben (OS/ASPR/BARDA); Blatner, Gretta (OS/ASPR/BARDA); Ayala, Ana (OS/OGA); Tracy Carson; 'NANNEI, Claudia'; 'MCLIESH, Wendy Maree'; Fernandez, Jose (OS/OGA); Burr, Mara (HHS/OS/OGA); Bleimund, Emily (OS/OGA); Tromberg, Bruce (NIH/NIBIB) [E]; Heemskerk, Jill (NIH/NIBIB) [E]; Ella Nudell; Lamourelle, Gabrielle (HHS/OS/OGA); Yarielka Arrieta</p>

Please join the USG-WHO MCM Dialogue Call. This will be a biweekly call on Fridays from 8 to 9 am ET/ 1400- 1500 Geneva.

We will share the final agenda and the WebEx or Zoom information.

If you have any questions, please contact [Arnela.Lopez@hhs.gov](mailto:Arnela.Lopez@hhs.gov) and [Ana.Ayala@hhs.gov](mailto:Ana.Ayala@hhs.gov).

Larry Kerr, PhD  
 Director  
 Office of Pandemic and Emerging Threats

Office of Global Affairs  
U.S. Department of Health and Human Services

<b>Sender:</b>	Kerr, Lawrence (HHS/OS/OGA) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE>; Lopez, Arnela (OS/OGA) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=505A8FE681584CA49E73F219976891AA-LOPEZ, ARNE>
<b>Recipient:</b>	Kerr, Lawrence (HHS/OS/OGA) /O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE <Lawrence.Kerr@hhs.gov>; Weinberger, Collin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=641554fc7843407585827af5898d9c26-Weinberger, <Collin.Weinberger@hhs.gov>; Moudy, Robin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d421d3e0f6474bc3857583cfc5870d69-Moudy, Robi <Robin.Moudy@hhs.gov>; Chandrasekera, Ruvani (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=678d9ff8e02d477ab5d0516bd3659a34-Chandraseke <Ruvani.Chandrasekera@hhs.gov>; Ferrey, Seth (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2d976148be6c4ea5a25eebf0fd101809-Ferrey, Set <Seth.Ferrey@hhs.gov>; Aasen, Adam (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9df94b81b7f549e08c44a157bd583f5d-Aasen, Adam <Adam.Aasen@hhs.gov>; Snyder, Anne (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7410775a42a540bbb71438b93c600bc8-Snyder, Ann <Anne.Snyder@hhs.gov>; Olson, Leandra (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dac295d944ee4b67b464d7d5041bb916-Olson, Lean <Leandra.Olson@hhs.gov>; Schmeissner, Peter (HHS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ca385a113d96474289fae94d7ef94614-Schmeissner <Peter.Schmeissner@hhs.gov>; LaHood, Natalie (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d7d5e131fd394ab3b1b0eb6f232851f1-Lahood, Nat <Natalie.Lahood@hhs.gov>; Smith, Steven T (Geneva) <SmithST1@state.gov>; 'SmithSR1@state.gov' <SmithSR1@state.gov>; Marks, Peter (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=df56588b970c43c8a9a2b9b31406746c-peter.marks <Peter.Marks@fda.hhs.gov>; Woodcock, Janet (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5f925e9a0f9147b186d40072d474d13d-janet.woodc <Janet.Woodcock@fda.hhs.gov>; Abdoo, Mark (FDA/OC) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d8893b91b3bd49b0978ac6b5d5423cd1-mark.abdoo. <Mark.Abdoo@fda.hhs.gov>; Disbrow, Gary (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0fd5845defda4dc0bb45f8fac629cf09-Disbrow, Ga <Gary.Disbrow@hhs.gov>; Houchens, Christopher (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7ac94a574bd04528b7c91bbd61893975-Houchens, C <Christopher.Houchens@hhs.gov>; Johnson, Robert (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0851e89240324306b78740a4a60745e2-Johnson, Ro <Robert.Johnson@hhs.gov>; 'swaminathans@who.int' <swaminathans@who.int>; 'ryanm@who.int' <ryanm@who.int>;

'simonsons@who.int' <simonsons@who.int>;  
'simaom@who.int' <simaom@who.int>;  
'aylwardb@who.int' <aylwardb@who.int>;  
Messonnier, Nancy (CDC/DDID/NCIRD/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=eac7af7ae9754d4290d7aa8cdb537078-Rosenstein <nar5@cdc.gov>;  
Helfand, Rita (CDC/DDID/NCEZID/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=28a17ce03de24abbb3e9c9e1363c4017-Helfand, Ri <rzh7@cdc.gov>;  
Hyde, Terri (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=653839b51d4442a7b5ad95e605761104-Hyde, Terri <tkh4@cdc.gov>;  
Cohn, Amanda (CDC/DDID/NCIRD/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=592292f16e754034a268cecb6e2c3d29-Cohn, Amand <anc0@cdc.gov>;  
Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=62643d5586b14f1798171ce903c12ea4-Montgomery, <ztq9@cdc.gov>;  
Brooks, John T. (CDC/DDID/NCHSTP/DHPSE) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1e50bf05c64442fb27c1dd6897ea0a6-Brooks, Joh <zud4@cdc.gov>;  
Mair, Michael (FDA/OC) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f3e2b23223bc4a1abecf698a4122f6c3-michael.mai <Michael.Mair@fda.hhs.gov>;  
'matthew.j.hepburn.civ@mail.mil' <matthew.j.hepburn.civ@mail.mil>;  
Mcqueen, COL Anthony (HHS/IOS) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ac168b9de8d04b0197d9839acff236c0-Mcqueen, An <Anthony.Mcqueen@hhs.gov>;  
Smith, Michael (MIL) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c800c9096ab34f7da2dfded90f2e71ba-Michael.Smi <michael.w.smith93.mil@mail.mil>;  
'sadam@fnih.org' <sadam@fnih.org>;  
Lane, Cliff (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=11a174ee688e426392d98ba9cd5e1945-cliff.lane. <CLANE@niaid.nih.gov>;  
Gruber, Marion (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub <Marion.Gruber@fda.hhs.gov>;  
Krause, Philip (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau <Philip.Krause@fda.hhs.gov>;  
Thomas, Ashley (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6bcf9a5e75bc42dea48e4009c5342397-ashley.thom <Ashley.Thomas@fda.hhs.gov>;  
'borgesa@who.int' <borgesa@who.int>;  
Bugin, Kevin (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=55c4e5e4038442ff8866f40f603e52ce-kevin.bugin <Kevin.Bugin@fda.hhs.gov>;  
Cho, David S (CBER) (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d79853f418ac488c9cd10b70d1e2b0f1-david.cho.f <David.Cho@fda.hhs.gov>;  
Sizemore, Christine (NIH/FIC) [E] <christine.sizemore@nih.gov>;  
Wholley, David (FNIH) [T] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=afc96d003f9d4a1831a2d77566ed34e-david.wholl <dwholley@fnih.org>;  
Melencio, Cheryl (FNIH) [T] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c543edb17906477e8a65d209f589fce1-cheryl.mele <cmelencio@fnih.org>;  
Donis, Ruben (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=af00dcf720cb429f8e2accbe06ee32ff-Donis, Rube <Ruben.Donis@hhs.gov>;  
Blatner, Gretta (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=623cb123c2324236b1db6fb9153e0bbf-Blatner, Gr <Gretta.Blatner@hhs.gov>;  
Ayala, Ana (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=80a408be55b14221a42c2b91002d6bf7-Ayala, Ana

	<p>&lt;Ana.Ayala@hhs.gov&gt;;  Tracy Carson /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=33c7d84fb82a48eeba8f4e0be680df60-TracyCarson  &lt;CarsonTL@state.gov&gt;;  'NANNEI, Claudia' &lt;nanneic@who.int&gt;;  'MCLIESH, Wendy Maree' &lt;mclieshw@who.int&gt;;  Fernandez, Jose (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=21d0317abb9f4d1bb2779f8b95826543-Fernandez,  &lt;Jose.Fernandez@hhs.gov&gt;;  Burr, Mara (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=1789c53bbdbf412b9b31cc59cbd4bda2-Burr, Mara  &lt;Mara.Burr@hhs.gov&gt;;  Bleimund, Emily (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=b229d23be0e24e03a3fd8244c450fb6b-Bleimund, E  &lt;Emily.Bleimund@hhs.gov&gt;;  Tromberg, Bruce (NIH/NIBIB) [E] /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=8296eab89a64486a841aa06f835d77e0-bruce.tromb  &lt;bruce.tromberg@nih.gov&gt;;  Heemskerk, Jill (NIH/NIBIB) [E] &lt;jill.heemskerk@nih.gov&gt;;  Ella Nudell (b)(6) pgeorgetown.edu&gt;;  Lamourelle, Gabrielle (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=2cf3cb1a840847b3af0ea0c4d0d137c1-Lamourelle,  &lt;Gabrielle.Lamourelle@hhs.gov&gt;;  Yarielka Arrieta (b)(6) pgmail.com&gt;;  Scharf, Sarah (NIH/OD) [E] /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=d7be58c4b45c4e978f7614d7d73425f9-sarah.schar  &lt;sarah.scharf@nih.gov&gt;</p>
<b>Sent Date:</b>	2020/05/20 15:21:33
<b>Delivered Date:</b>	2020/05/20 15:21:32
<b>To:</b>	<p>Kerr, Lawrence (HHS/OS/OGA) /O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP  (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE  &lt;Lawrence.Kerr@hhs.gov&gt;;  Weinberger, Collin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=641554fc7843407585827af5898d9c26-Weinberger,  &lt;Collin.Weinberger@hhs.gov&gt;;  Moudy, Robin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=d421d3e0f6474bc3857583cfc5870d69-Moudy, Robi  &lt;Robin.Moudy@hhs.gov&gt;;  Chandrasekera, Ruvani (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=678d9ff8e02d477ab5d0516bd3659a34-Chandraseke  &lt;Ruvani.Chandrasekera@hhs.gov&gt;;  Ferrey, Seth (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=2d976148be6c4ea5a25eebf0fd101809-Ferrey, Set  &lt;Seth.Ferrey@hhs.gov&gt;;  Aasen, Adam (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=9df94b81b7f549e08c44a157bd583f5d-Aasen, Adam  &lt;Adam.Aasen@hhs.gov&gt;;  Snyder, Anne (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=7410775a42a540bbb71438b93c600bc8-Snyder, Ann  &lt;Anne.Snyder@hhs.gov&gt;;  Wood, Rachel (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=036283582622451c990865536a2e537b-Wood, Rache  &lt;Rachel.Wood@hhs.gov&gt;;  Olson, Leandra (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=dac295d944ee4b67b464d7d5041bb916-Olson, Lean  &lt;Leandra.Olson@hhs.gov&gt;;  Schmeissner, Peter (HHS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=ca385a113d96474289fae94d7ef94614-Schmeissner  &lt;Peter.Schmeissner@hhs.gov&gt;;  /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=d7d5e131fd394ab3b1b0eb6f232851f1-Lahood, Nat &lt;LaHood,  Natalie (OS/OGA)&gt;;  LaHood, Natalie (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=d7d5e131fd394ab3b1b0eb6f232851f1-Lahood, Nat &lt;LaHood,  Natalie (OS/OGA)&gt;;</p>



	(FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub <Gruber, Marion (FDA/CBER)>; /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau <Krause, Philip (FDA/CBER)>; /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6bcf9a5e75bc42dea48e4009c5342397-ashley.thom <Thomas, Ashley (FDA/CDER)>; ?? 맵□ㄹ越λ号□ <Ashley.Thomas.fda>;  蚪愕終蒯薊馭址佈鈔呖 맵□ㄹ越λ号□ <borgesa@who.int>; Kevin.Bugin@fda.hhs.gov <Bugin, Kevin (FDA/CDER)>; 垝□滓垝軋↘薊稭刊伯添垝軋↘薊漣體义弁剔哟嗽[則問□校甜毓輻㉨廕跡叫□乃劍齡偉萼呖□乃臚恰廐 袷↘柏劬伙們朦↘祈麟蔭簞綈□穠鑛□軋□F 맵□ㄹ越λ号□ <ChoD.fda>;  蚪愕緝剔卉鏢藟匪婉鑿鞑瞞鐳□佇V 맵□ㄹ越λ号□ <Sizemore, Christine (NIH/FIC) [E]>; dwholley@fnih.org <Wholley, David (FNIH) [T]>; cmelencio@fnih.org <Melencio, Cheryl (FNIH) [T]>; 6 EX; <7>; 8 SMTP; 9 EX
Type:	OLE.CLASS.{00061055-0000-0000-C000-000000000046}

Kerr, Lawrence (HHS/OS/OGA) /o=EXCHANGELABS/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=RECIPIENTS/cn=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE <Lawrence.Kerr@hhs.gov>;  
Weinberger, Collin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=641554fc7843407585827af5898d9c26-Weinberger, <Collin.Weinberger@hhs.gov>;  
Moudy, Robin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d421d3e0f6474bc3857583cfc5870d69-Moudy, Robi <Robin.Moudy@hhs.gov>;  
Chandrasekera, Ruvani (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=678d9ff8e02d477ab5d0516bd3659a34-Chandraseke <Ruvani.Chandrasekera@hhs.gov>;  
Ferrey, Seth (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2d976148be6c4ea5a25eebf0fd101809-Ferrey, Set <Seth.Ferrey@hhs.gov>;  
Aasen, Adam (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9df94b81b7f549e08c44a157bd583f5d-Aasen, Adam <Adam.Aasen@hhs.gov>;  
**Recipient:** Snyder, Anne (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7410775a42a540bbb71438b93c600bc8-Snyder, Ann <Anne.Snyder@hhs.gov>;  
Wood, Rachel (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=036283582622451c990865536a2e537b-Wood, Rache <Rachel.Wood@hhs.gov>;  
Olson, Leandra (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dac295d944ee4b67b464d7d5041bb916-Olson, Lean <Leandra.Olson@hhs.gov>;  
Schmeissner, Peter (HHS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ca385a113d96474289fae94d7ef94614-Schmeissner <Peter.Schmeissner@hhs.gov>;  
/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d7d5e131fd394ab3b1b0eb6f232851f1-Lahood, Nat <LaHood, Natalie (OS/OGA)>;  
LaHood, Natalie (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d7d5e131fd394ab3b1b0eb6f232851f1-Lahood, Nat <LaHood, Natalie (OS/OGA)>;  
맵□ᄇ越入号□;  
𐀃𐀆𐀈𐀉𐀊𐀋𐀌𐀍 Marks, Peter (FDA/CBER);



0瘳龔□鄧璽劬 Woodcock, Janet (FDA/CDER);  
 髑嶸哩鯢檣訐玆별 Abdo, Mark (FDA/OC);  
 EX;  
 髑□畚窠辨筭I儼 Christopher.Houchens.os </o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=7ac94a574bd04528b7c91bbd61893975-Houchens, C>;  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=0851e89240324306b78740a4a60745e2-Johnson, Ro  
 <Robert.Johnson@hhs.gov>;  
 SMTP;  
 SMTP;  
 SMTP;  
 SMTP;  
 SMTP;  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=eac7af7ae9754d4290d7aa8cdb537078-Rosenstein  
 <Messonnier, Nancy (CDC/DDID/NCIRD/OD)>;  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=28a17ce03de24abbb3e9c9e1363c4017-Helfand, Ri <Helfand,  
 Rita (CDC/DDID/NCEZID/OD)>;  
 塏□滓塏勳↵莧穉卅伯淦塏勳↵莧漣禮义弁剔哟噉[則問□校甜毓輒Ⓢ廙跡叫□乃劍鈴偉蕞呖□乃栽ヲヱ  
 簞↵母伢秬穉季悽蘭Ⓢ孃↵く □奈蓋蒞割I <Hyde, Terri (CDC/DDPHSIS/CGH/GID)>;  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=592292f16e754034a268cecb6e2c3d29-Cohn, Amand  
 <anc0@cdc.gov>;  
 Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative  
 Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=62643d5586b14f1798171ce903c12ea4-Montgomery,  
 <ztq9@cdc.gov>;  
 Brooks, John T. (CDC/DDID/NCHSTP/DHPSE) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=1e50bf05c6442fb27c1dd6897ea0a6-Brooks, Joh  
 <zud4@cdc.gov>;  
 EX Michael.Mair.fda  
 &塏□滓塏勳↵莧穉卅伯淦塏勳↵莧漣禮义弁剔哟噉[則問□校甜毓輒Ⓢ廙跡叫□乃劍鈴偉蕞呖□乃祝熬  
 簞↵尙簞尙□簞鈴垓軫佻悽浸紂□塾勳莧□梃I>;  
 秬愕齧哟軫垓羣瞞俚吼兵繡噉錮□塾L <SMTP>;  
 EX ?? </o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=ac168b9de8d04b0197d9839acff236c0-Mcqueen, An>;  
 塏□滓塏勳↵莧穉卅伯淦塏勳↵莧漣禮义弁剔哟噉[則問□校甜毓輒Ⓢ廙跡叫□乃劍鈴偉蕞呖□乃綵十繡  
 廿些簞仇穉縹摺臍臍廿Ⓢ戛營□塾勳莧□秬I <EX>;  
 " SMTP;  
 塏□滓塏勳↵莧穉卅伯淦塏勳↵莧漣禮义弁剔哟噉[則問□校甜毓輒Ⓢ廙跡叫□乃劍鈴偉蕞呖□乃ヲ枋嬭  
 藪塚峽伿坭恬膾軫格綢厓↵人□鯀福□稍藪. <EX>;  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub <Gruber,  
 Marion (FDA/CBER)>;  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau <Krause,  
 Philip (FDA/CBER)>;  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=6bcf9a5e75bc42dea48e4009c5342397-ashley.thom <Thomas,  
 Ashley (FDA/CDER)>;  
 ?? 罍□Ⓢ越↵号□ <Ashley.Thomas.fda>;  
 秬愕穉羴莧穉址佈鈹呖 罍□Ⓢ越↵号□ <borgesa@who.int>;  
 Kevin.Bugin@fda.hhs.gov <Bugin, Kevin (FDA/CDER)>;  
 塏□滓塏勳↵莧穉卅伯淦塏勳↵莧漣禮义弁剔哟噉[則問□校甜毓輒Ⓢ廙跡叫□乃劍鈴偉蕞呖□乃臚恬廙  
 袞↵ 伯劬峽們膝↵ 祈臚簞縹綫□縹鑲□勳□F 罍□Ⓢ越↵号□ <ChoD.fda>;  
 秬愕緝刳弁鑲臚匿婉夔羴鑲錮□佇V 罍□Ⓢ越↵号□ <Sizemore, Christine (NIH/FIC) [E]>;  
 dwholley@fnih.org <Wholley, David (FNIH) [T]>;  
 cmelencio@fnih.org <Melencio, Cheryl (FNIH) [T]>;  
 塏□滓塏勳↵莧穉卅伯淦塏勳↵莧漣禮义弁剔哟噉[則問□校甜毓輒Ⓢ廙跡叫□乃劍鈴偉蕞呖□乃栽ヲ莧  
 悽縹ヲ伏莧穉臚垓莧↵ヲヲ 簞□鯀哟噉Ⓢ譜R <Blatner, Gretta (OS/ASPR/BARDA)>;

	<p>           垩□滓垩勒 丩麓稠卂伯添垩勒 丩麓濯禮义弁剔哟噉[則問□校甜觚輒⊗匱詠叫□乃劍齡偉纂呖□乃梔殄 /-            觔屏簪參術枋(罔)得く(旧)埕褊□奩鯨嶺稊 &lt;EX&gt;;            垩□滓垩勒 丩麓稠卂伯添垩勒 丩麓濯禮义弁剔哟噉[則問□校甜觚輒⊗匱詠叫□乃劍齡偉纂呖□乃紉繼驛            伙篤(例)岫蕞嶺梔 ㄣ 遠帆臙垩□剔縊罽剝体N &lt;EX&gt;;            'NANNEI, Claudia' &lt;nanneic@who.int&gt;;            'MCLIESH, Wendy Maree' &lt;mclieshw@who.int&gt;;            垩□滓垩勒 丩麓稠卂伯添垩勒 丩麓濯禮义弁剔哟噉[則問□校甜觚輒⊗匱詠叫□乃劍齡偉纂呖□乃(劍)臙 ㄣ            煩簪得促 ㄣ 纂嶺恰輒得市坵仟□穉乒 丩蓋 ㄣ Fernandez, Jose (OS/OGA) &lt;Jose.Fernandez.OS&gt;;            垩□滓垩勒 丩麓稠卂伯添垩勒 丩麓濯禮义弁剔哟噉[則問□校甜觚輒⊗匱詠叫□乃劍齡偉纂呖□乃 ㄣ 極綱            ㄣ 纂嶺促(憐)得 ㄣ 縊屏綱臙纂穉□吼割挺挺 ?? &lt;5&gt;;            ㄣ 濾臙務馮臙紂 /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=b229d23be0e24e03a3fd8244c450fb6b-Bleimund, E;            6 EX;            &lt;7&gt;;            8 SMTP;            9 EX;            &lt;:;&gt;         </p>
To:	<p>           Kerr, Lawrence (HHS/OS/OGA) /O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP            (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE            &lt;Lawrence.Kerr@hhs.gov&gt;;            Weinberger, Collin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=641554fc7843407585827af5898d9c26-Weinberger,            &lt;Collin.Weinberger@hhs.gov&gt;;            Moudy, Robin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=d421d3e0f6474bc3857583cfc5870d69-Moudy, Robi            &lt;Robin.Moudy@hhs.gov&gt;;            Chandrasekera, Ruvani (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=678d9ff8e02d477ab5d0516bd3659a34-Chandraseke            &lt;Ruvani.Chandrasekera@hhs.gov&gt;;            Ferrey, Seth (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=2d976148be6c4ea5a25eebf0fd101809-Ferrey, Set            &lt;Seth.Ferrey@hhs.gov&gt;;            Aasen, Adam (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=9df94b81b7f549e08c44a157bd583f5d-Aasen, Adam            &lt;Adam.Aasen@hhs.gov&gt;;            Snyder, Anne (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=7410775a42a540bbb71438b93c600bc8-Snyder, Ann            &lt;Anne.Snyder@hhs.gov&gt;;            Wood, Rachel (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=036283582622451c990865536a2e537b-Wood, Rache            &lt;Rachel.Wood@hhs.gov&gt;;            Olson, Leandra (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=dac295d944ee4b67b464d7d5041bb916-Olson, Lean            &lt;Leandra.Olson@hhs.gov&gt;;            Schmeissner, Peter (HHS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=ca385a113d96474289fae94d7ef94614-Schmeissner            &lt;Peter.Schmeissner@hhs.gov&gt;;            /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=d7d5e131fd394ab3b1b0eb6f232851f1-Lahood, Nat &lt;LaHood,            Natalie (OS/OGA)&gt;;            LaHood, Natalie (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=d7d5e131fd394ab3b1b0eb6f232851f1-Lahood, Nat &lt;LaHood,            Natalie (OS/OGA)&gt;;            맵□ㄣ越入号□;            ㄣ 鯨鯨顯入誘練ㄣ Marks, Peter (FDA/CBER);            ㄣ 縊臙□ㄣ 勁 Woodcock, Janet (FDA/CDER);            ㄣ 嶺哩鯨臙縊縊 ㄣ Abdoo, Mark (FDA/OC);            EX;            ㄣ □畚窠弁會 ㄣ Christopher.Houchens.os &lt;/o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=7ac94a574bd04528b7c91bbd61893975-Houchens, C&gt;;            /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=0851e89240324306b78740a4a60745e2-Johnson, Ro         </p>



	7 纂陵促憐得 纒屏綢膜纂穠 口吼割挺穠 Burr, Mara (HHS/OS/OGA) <Mara.Burr>; /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b229d23be0e24e03a3fd8244c450fb6b-Bleimund, E <Bleimund, Emily (OS/OGA)>; /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b229d23be0e24e03a3fd8244c450fb6b-Bleimund, E Tromberg, Bruce (NIH/NIBIB) [E]; <, >; <->; 6 EX; /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=afc96d003f9d4a41831a2d77566ed34e-david.wholl Melencio, Cheryl (FNIH) [T]; 8 EX; /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=623cb123c2324236b1db6fb9153e0bbf-Blatner, Gr <Blatner, Gretta (OS/ASPR/BARDA)>
<b>Subject:</b>	USG-WHO Dialogue on COVID-19 MCMs
<b>Type:</b>	OLE.CLASS.{00061055-0000-0000-C000-000000000046}

Please join the USG-WHO Dialogue on COVID-19 MCMs. This week's call will be on Friday, July 10 from 9 - 9:45 am ET/ 1500 - 1545 Geneva.

Domestic: (b)(6)  
 International: (b)(6)  
 Participant Passcode: (b)(6)

If you have any questions, please contact [Arnela.Lopez@hhs.gov](mailto:Arnela.Lopez@hhs.gov) and [Ruvani.Chandrasekera@hhs.gov](mailto:Ruvani.Chandrasekera@hhs.gov).

Larry Kerr, PhD  
 Director  
 Office of Pandemic and Emerging Threats  
 Office of Global Affairs  
 U.S. Department of Health and Human Services

<b>Recipient:</b>	Kerr, Lawrence (HHS/OS/OGA) /O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE <Lawrence.Kerr@hhs.gov>; Weinberger, Collin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=641554fc7843407585827af5898d9c26-Weinberger, <Collin.Weinberger@hhs.gov>; Moudy, Robin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d421d3e0f6474bc3857583cfc5870d69-Moudy, Robi <Robin.Moudy@hhs.gov>; Chandrasekera, Ruvani (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=678d9ff8e02d477ab5d0516bd3659a34-Chandraseke <Ruvani.Chandrasekera@hhs.gov>; Ferrey, Seth (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2d976148be6c4ea5a25eebf0fd101809-Ferrey, Set <Seth.Ferrey@hhs.gov>; Aasen, Adam (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9df94b81b7f549e08c44a157bd583f5d-Aasen, Adam <Adam.Aasen@hhs.gov>; Snyder, Anne (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group
-------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

(FYDIBOHF23SPDLT)/cn=7410775a2a425a540bbf17438b93c600bc8-Snyder, Ann  
<Anne.Snyder@hhs.gov>;  
Wood, Rachel (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=036283582622451c990865536a2e537b-Wood, Rache  
<Rachel.Wood@hhs.gov>;  
Olson, Leandra (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=dac295d944ee4b67b464d7d5041bb916-Olson, Lean  
<Leandra.Olson@hhs.gov>;  
Schmeissner, Peter (HHS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=ca385a113d96474289fae94d7ef94614-Schmeissner  
<Peter.Schmeissner@hhs.gov>;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=d7d5e131fd394ab3b1b0eb6f232851f1-Lahood, Nat <LaHood,  
Natalie (OS/OGA)>;  
LaHood, Natalie (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=d7d5e131fd394ab3b1b0eb6f232851f1-Lahood, Nat <LaHood,  
Natalie (OS/OGA)>;  
맵□ㄹ越Λ号□;  
꺲뽰鯨鱚λ誘練뽰 Marks, Peter (FDA/CBER);  
ㅁ蔞莢□뽰뽰劲 Woodcock, Janet (FDA/CDER);  
꺲𐆪啍喱嚙櫛꺲꺲뽰 Abdo, Mark (FDA/OC);  
EX;  
뽰□畧窠筭官I꺲 Christopher.Houchens.os </o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=7ac94a574bd04528b7c91bbd61893975-Houchens, C>;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=0851e89240324306b78740a4a60745e2-Johnson, Ro  
<Robert.Johnson@hhs.gov>;  
SMTP;  
SMTP;  
SMTP;  
SMTP;  
SMTP;  
SMTP;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=eac7af7ae9754d4290d7aa8cdb537078-Rosenstein  
<Messonnier, Nancy (CDC/DDID/NCIRD/OD)>;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=28a17ce03de24abb3e9c9e1363c4017-Helfand, Ri <Helfand,  
Rita (CDC/DDID/NCEZID/OD)>;  
塏□滓塏勳↗蒯穉卅伯添塏勳↗蒯漣禮义弃剔哟哦[則問□絞甜毓輻⊕匱詠叫□乃劍齡偉慕呖□乃裁??"  
簪ㄣ母伋納糈季悽蘭Ⓜ嬢ㄣく □奈葦薈割I <Hyde, Terri (CDC/DDPHSIS/CGH/GID)>;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=592292f16e754034a268cecb6e2c3d29-Cohn, Amand  
<anc0@cdc.gov>;  
Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative  
Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=62643d5586b14f1798171ce903c12ea4-Montgomery,  
<zttq9@cdc.gov>;  
Brooks, John T. (CDC/DDID/NCHSTP/DHPSE) /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=1e50fb0f5c64442fb27c1dd6897ea0a6-Brooks, Joh  
<zud4@cdc.gov>;  
EX Michael.Mair.fda  
<塏□滓塏勳↗蒯穉卅伯添塏勳↗蒯漣禮义弃剔哟哦[則問□絞甜毓輻⊕匱詠叫□乃劍齡偉慕呖□乃視蔡  
籜??"(栴劬□籟齡圀圀倮憐縶紉□鑿勳葉□挺I>;  
耑脣嚙哟軫玲蠶騰僇吼兵繡噉麵鋪□鑿L <SMTP>;  
EX ?? </o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=ac168b9de8d04b0197d9839acff236c0-Mcqueen, An>;  
塏□滓塏勳↗蒯穉卅伯添塏勳↗蒯漣禮义弃剔哟哦[則問□絞甜毓輻⊕匱詠叫□乃劍齡偉慕呖□乃綵十緝  
廿些箴飢孺腦膈臃勝卅⊕穀管□鑿勳葉□耑I <EX>;  
" SMTP;  
塏□滓塏勳↗蒯穉卅伯添塏勳↗蒯漣禮义弃剔哟哦[則問□絞甜毓輻⊕匱詠叫□乃劍齡偉慕呖□乃ㄣ枋嬾  
藪塚峽在坵恆膈駘格絢厶入气□鉄滌□桐嶺. <EX>;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=80a408be55b14221a42c2b91002d6bf7-Ayala, Ana <Ayala,



sip:gary.disbrow@hhs.gov d;  
 sip:christopher.houchens@hhs.gov </o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=7ac94a574bd04528b7c91bbd61893975-Houchens, C>;  
 SMTP;  
 SMTP;  
 SMTP;  
 SMTP;  
 SMTP;  
 EX;  
 EX;  
 EX;  
 ??;  
 Cohn, Amanda (CDC/DDID/NCIRD/OD) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=592292f16e754034a268cecb6e2c3d29-Cohn, Amand  
 <anc0@cdc.gov>;  
 Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative  
 Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=62643d5586b14f1798171ce903c12ea4-Montgomery,  
 <ztq9@cdc.gov>;  
 Brooks, John T. (CDC/DDID/NCHHSTP/DHPSE) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=1e50bf05c64442fb27c1dd6897ea0a6-Brooks, Joh  
 <zud4@cdc.gov>;  
 맵□ㄹㄹㄹㄹ /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=f3e2b23223bc4a1abecf698a4122f6c3-michael.mai;  
 matthew.j.hepburn.civ@mail.mil <맵□ㄹㄹㄹㄹ>;  
 Anthony.Mcqueen 맵□ㄹㄹㄹㄹ;  
 'sadam@fnih.org';  
 Lane, Cliff (NIH/NIAID) [E];  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=623cb123c2324236b1db6fb9153e0bbf-Blatner, Gr Ayala, Ana  
 (OS/OGA);  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=80a408be55b14221a42c2b91002d6bf7-Ayala, Ana Tracy  
 Carson;  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=33c7d84fb82a48eeba8f4e0be680df60-TracyCarson 'NANNEI,  
 Claudia';  
 'MCLIESH, Wendy Maree';  
 𐄂𐄂𐄂𐄂 𐄂𐄂𐄂 Fernandez, Jose (OS/OGA);  
 𐄂𐄂𐄂 𐄂𐄂𐄂 Burr, Mara (HHS/OS/OGA);  
 𐄂𐄂𐄂 𐄂𐄂𐄂 EX;  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=b229d23be0e24e03a3fd8244c450fb6b-Bleimund, E EX;  
 <??>

CC:

/o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=11a174ee688e426392d98ba9cd5e1945-cliff.lane. Gruber,  
 Marion (FDA/CBER);  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub Krause,  
 Philip (FDA/CBER);  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau Thomas,  
 Ashley (FDA/CDER);  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=6bcf9a5e75bc42dea48e4009c5342397-ashley.thom  
 'borgesa@who.int';  
 ?? <'borgesa@who.int'>;  
 Bugin, Kevin (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=55c4e5e4038442ff8866f40f603e52ce-kevin.bugin <Bugin,  
 Kevin (FDA/CDER)>;  
 Cho, David S (CBER) (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=d79853f418ac488c9cd10b70d1e2b0f1-david.cho.f <Cho, David  
 S (CBER)>;  
 Sizemore, Christine (NIH/FIC) [E] <맵□ㄹㄹㄹㄹ>;

	Wholley, David (FNIH) [T] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=afc96d003f9d4a41831a2d77566ed34e-david.wholl <Wholley, David (FNIH) [T]>; Melencio, Cheryl (FNIH) [T] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c543edb17906477e8a65d209f589fce1-cheryl.mele <Melencio, Cheryl (FNIH) [T]>; Donis, Ruben (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=af00dcf720cb429f8e2accbe06ee32ff-Donis, Rube <Donis, Ruben (OS/ASPR/BARDA)>; 7 SMTP; d <8>; <9>; q <??>
<b>Type:</b>	OLE.CLASS.{00061055-0000-0000-C000-000000000046}

Please join the USG-WHO MCM Dialogue Call. This will be a biweekly call on Fridays from 8 to 9 am ET/ 1400- 1500 Geneva.

We will share the final agenda and the WebEx or Zoom information.

If you have any questions, please contact [Arnela.Lopez@hhs.gov](mailto:Arnela.Lopez@hhs.gov) and [Ana.Ayala@hhs.gov](mailto:Ana.Ayala@hhs.gov).

Larry Kerr, PhD  
 Director  
 Office of Pandemic and Emerging Threats  
 Office of Global Affairs  
 U.S. Department of Health and Human Services

<b>Recipient:</b>	Ella Nudell (b)(6) @georgetown.edu>; 塏□滓塏塏 〓魔稠卅伯漆塏塏 〓魔禳禮乂卉剔哟噉[則問□校甜毓輻⑤匿跡叫□乃劍齡偉華呖□乃崢蔭臚 □穀慨偶閱纂匣掖掖垓□闊輓□塘割稍剗E 맵□ㄱ越A号□ <Lawrence.Kerr.OS>; Collin.Weinberger.OS sip:collin.weinberger@hhs.gov <Weinberger, Collin (OS/OGA)>; Robin.Moudy.OS sip:robin.moudy@hhs.gov <Moudy, Robin (OS/OGA)>; Ruvani.Chandrasekera.OS sip:ruvani.chandrasekera@hhs.gov <Chandrasekera, Ruvani (OS/OGA)>; /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2d976148be6c4ea5a25eebf0fd101809-Ferrey, Set /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9df94b81b7f549e08c44a157bd583f5d-Aasen, Adam; □端□臬玆鄉□ᄡ EX; EX; EX; EX; SMTP; SmithST1@state.gov <Smith, Steven T (Geneva)>; 'SmithSR1@state.gov' d <SmithSR1@state.gov>; d; d; d; sip:gary.disbrow@hhs.gov d;
-------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------



sip:christopher.houchens@hhs.gov </o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=7ac94a574bd04528b7c91bbd61893975-Houchens, C>;  
 SMTP;  
 SMTP;  
 SMTP;  
 SMTP;  
 SMTP;  
 EX;  
 EX;  
 EX;  
 ??;  
 Cohn, Amanda (CDC/DDID/NCIRD/OD) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=592292f16e754034a268cecb6e2c3d29-Cohn, Amand  
 <anc0@cdc.gov>;  
 Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative  
 Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=62643d5586b14f1798171ce903c12ea4-Montgomery,  
 <ztq9@cdc.gov>;  
 Brooks, John T. (CDC/DDID/NCHHSTP/DHPSE) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=1e50fbf05c64442fb27c1dd6897ea0a6-Brooks, Joh  
 <zud4@cdc.gov>;  
 맵□ㄹㄹㄹㄹㄹ /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=f3e2b23223bc4a1abecf698a4122f6c3-michael.mai;  
 matthew.j.hepburn.civ@mail.mil <맵□ㄹㄹㄹㄹㄹ>;  
 Anthony.Mcqueen 맵□ㄹㄹㄹㄹㄹ;  
 'sadam@fnihi.org';  
 Lane, Cliff (NIH/NIAID) [E];  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=11a174ee688e426392d98ba9cd5e1945-cliff.lane. Gruber,  
 Marion (FDA/CBER);  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub Krause,  
 Philip (FDA/CBER);  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau Thomas,  
 Ashley (FDA/CDER);  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=6bcf9a5e75bc42dea48e4009c5342397-ashley.thom  
 'borgesa@who.int';  
 ?? <'borgesa@who.int'>;  
 Bugin, Kevin (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=55c4e5e4038442ff8866f40f603e52ce-kevin.bugin <Bugin,  
 Kevin (FDA/CDER)>;  
 Cho, David S (CBER) (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=d79853f418ac488c9cd10b70d1e2b0f1-david.cho.f <Cho, David  
 S (CBER)>;  
 Sizemore, Christine (NIH/FIC) [E] <맵□ㄹㄹㄹㄹㄹ>;  
 Wholley, David (FNIH) [T] /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=afc96d003f9d4a41831a2d77566ed34e-david.wholl <Wholley,  
 David (FNIH) [T]>;  
 Melencio, Cheryl (FNIH) [T] /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=c543edb17906477e8a65d209f589fce1-cheryl.mele <Melencio,  
 Cheryl (FNIH) [T]>;  
 Donis, Ruben (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=af00dcf720cb429f8e2accbe06ee32ff-Donis, Rube <Donis,  
 Ruben (OS/ASPR/BARDA)>;  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=623cb123c2324236b1db6fb9153e0bbf-Blatner, Gr Ayala, Ana  
 (OS/OGA);  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=80a408be55b14221a42c2b91002d6bf7-Ayala, Ana Tracy  
 Carson;  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=33c7d84fb82a48eeba8f4e0be680df60-TracyCarson 'NANNEI,  
 Claudia';



	<p> &lt;'simonsons@who.int'&gt;;  &lt;'simaom@who.int'&gt;;  &lt;'aylwardb@who.int'&gt;;  塏□滓塏勳ㄟ麓穉卂伯添塏勳ㄟ麓漣禮义弁剔哟噉[則問□校甜毓輒㊟匱跡叫□乃劍齡偉羣呖□乃(佗)柏燂  蔭ㄟ蓋伏簞纂熬綢蔭ㄟ勳□□藤漬ㄟ刪I &lt;EX&gt;;  塏□滓塏勳ㄟ麓穉卂伯添塏勳ㄟ麓漣禮义弁剔哟噉[則問□校甜毓輒㊟匱跡叫□乃劍齡偉羣呖□乃裁ㄟ  筍ㄟ母伢納緒季悽蘭㊟孃ㄟく□奈蓋荷割I &lt;EX&gt;;  /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=592292f16e754034a268cecb6e2c3d29-Cohn, Amand  &lt;anc0@cdc.gov&gt;;  塏□滓塏勳ㄟ麓穉卂伯添塏勳ㄟ麓漣禮义弁剔哟噉[則問□校甜毓輒㊟匱跡叫□乃劍齡偉羣呖□乃裁坵ㄟ  厖帛答參ㄟ恰ㄟㄟ蔭ㄟ繼憐桂□位呖什蓄麥, &lt;EX&gt;;  塏□滓塏勳ㄟ麓穉卂伯添塏勳ㄟ麓漣禮义弁剔哟噉[則問□校甜毓輒㊟匱跡叫□乃劍齡偉羣呖□乃ㄟ屏裊  綈匪坵伢(爲)寫蠟ㄟ腴帆耀桂秬□剂住忝彼H &lt;EX&gt;;  塏□滓塏勳ㄟ麓穉卂伯添塏勳ㄟ麓漣禮义弁剔哟噉[則問□校甜毓輒㊟匱跡叫□乃劍齡偉羣呖□乃祝熱簞  ㄟ(術)竊ㄟ口簪齡坎蚡催綈浸紉□塾勳莢□艇I &lt;EX&gt;;  紉愕齧哟軫矜霽蹠僮吼乒繡噉麵繡□塾L &lt;SMTP&gt;;  塏□滓塏勳ㄟ麓穉卂伯添塏勳ㄟ麓漣禮义弁剔哟噉[則問□校甜毓輒㊟匱跡叫□乃劍齡偉羣呖□乃栖ㄟ帆  得蓋膳ㄟ佗恒驛蚡恬繼襪ㄟ紉□穀噉躉ㄟ漣N &lt;EX&gt;;  &lt;/o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=c800c9096ab34f7da2dfded90f2e71ba-Michael.Smi&gt;;  SMTP 紉愕区譽繼棚鐳□瓶G &lt;sadam@fnih.org&gt;;  /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=11a174ee688e426392d98ba9cd5e1945-cliff.lane. clane.NIH  &lt;CLANE@niaid.nih.gov&gt;;  /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=6bcf9a5e75bc42dea48e4009c5342397-ashley.thom &lt;Thomas,  Ashley (FDA/CDER)&gt;;  &lt;'borgesa@who.int'&gt;;  塏□滓塏勳ㄟ麓穉卂伯添塏勳ㄟ麓漣禮义弁剔哟噉[則問□校甜毓輒㊟匱跡叫□乃劍齡偉羣呖□乃啗編藪  蘭ㄟ令伢稜航至涵ㄟ坵ㄟ屏繼□藩鑣□吼鑣N &lt;EX&gt;;  /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=d79853f418ac488c9cd10b70d1e2b0f1-david.cho.f &lt;Cho, David  S (CBER) (FDA/CBER)&gt;;  2 SMTP;  /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=afc96d003f9d4a41831a2d77566ed34e-david.wholl &lt;Wholley,  David (FNIH) [T]&gt;;  ?? &lt;EX&gt;;  &lt;5&gt;;  Lamourelle, Gabrielle (HHS/OS/OGA) &lt;sip:gabrielle.lamourelle@hhs.gov&gt; </p>
CC:	<p> /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=80a408be55b14221a42c2b91002d6b7-Ayala, Ana Ayala, Ana  (OS/OGA) &lt;Ana.Ayala@hhs.gov&gt;;  /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=33c7d84fb82a48eeba8f4e0be680df60-TracyCarson Tracy  Carson &lt;CarsonTL@state.gov&gt;;  nanneic@who.int 'NANNEI, Claudia' &lt;nanneic@who.int&gt;;  紉愕齧鯨華衛瞪聒□义T 맵□ㄟ越ㄟ号□ &lt;MCLIESH, Wendy Maree&gt;;  EX &lt;/o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=21d0317abb9f4d1bb2779f8b95826543-Fernandez,&gt;;  ) &lt;d&gt;;  Bleimund, Emily (OS/OGA) &lt;sip:emily.bleimund@hhs.gov&gt;;  bruce.tromberg@nih.gov 맵□ㄟ越ㄟ号□ &lt;trombergbj.NIH&gt;;  /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=67117ba1e0034e4e9f3d50c794331e1f-kathleen.do Dooling,  Kathleen L. (CDC/DDID/NCIRD/DVD) &lt;vic9@cdc.gov&gt;;  /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub Gruber,  Marion (FDA/CBER) &lt;Marion.Gruber@fda.hhs.gov&gt;;  /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau ?? </p>



Larry Kerr, PhD  
Director  
Office of Pandemic and Emerging Threats  
Office of Global Affairs  
U.S. Department of Health and Human Services

Director

Office of Global Affairs

U.S. Department of Health and Human Services

Messonnier, Nancy (CDC/DDID/NCIRD/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=eac7af7ae9754d4290d7aa8cdb537078-Rosenstein <nar5@cdc.gov>;  
/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8ce9de2e7497472bb758f8fd6e262c86-Kerr, Lawre Kerr, Lawrence (HHS/OS/OGA) <Lawrence.Kerr@hhs.gov>;  
Collin.Weinberger@hhs.gov 𐄂𐄃𐄅𐄆𐄇𐄈𐄉𐄊𐄋𐄌𐄍𐄎𐄏𐄐𐄑𐄒𐄓𐄔𐄕𐄖𐄗𐄘𐄙𐄚𐄛𐄜𐄝𐄞𐄟𐄠𐄡𐄢𐄣𐄤𐄥𐄦𐄧𐄨𐄩𐄪𐄫𐄬𐄭𐄮𐄯𐄰𐄱𐄲𐄳𐄴𐄵𐄶𐄷𐄸𐄹𐄺𐄻𐄼𐄽𐄾𐄿𐅀𐅁𐅂𐅃𐅄𐅅𐅆𐅇𐅈𐅉𐅊𐅋𐅌𐅍𐅎𐅏𐅐𐅑𐅒𐅓𐅔𐅕𐅖𐅗𐅘𐅙𐅚𐅛𐅜𐅝𐅞𐅟𐅠𐅡𐅢𐅣𐅤𐅥𐅦𐅧𐅨𐅩𐅪𐅫𐅬𐅭𐅮𐅯𐅰𐅱𐅲𐅳𐅴𐅵𐅶𐅷𐅸𐅹𐅺𐅻𐅼𐅽𐅾𐅿𐆀𐆁𐆂𐆃𐆄𐆅𐆆𐆇𐆈𐆉𐆊𐆋𐆌𐆍𐆎𐆏𐆐𐆑𐆒𐆓𐆔𐆕𐆖𐆗𐆘𐆙𐆚𐆛𐆜𐆝𐆞𐆟𐆠𐆡𐆢𐆣𐆤𐆥𐆦𐆧𐆨𐆩𐆪𐆫𐆬𐆭𐆮𐆯𐆰𐆱𐆲𐆳𐆴𐆵𐆶𐆷𐆸𐆹𐆺𐆻𐆼𐆽𐆾𐆿𐇀𐇁𐇂𐇃𐇄𐇅𐇆𐇇𐇈𐇉𐇊𐇋𐇌𐇍𐇎𐇏𐇐𐇑𐇒𐇓𐇔𐇕𐇖𐇗𐇘𐇙𐇚𐇛𐇜𐇝𐇞𐇟𐇠𐇡𐇢𐇣𐇤𐇥𐇦𐇧𐇨𐇩𐇪𐇫𐇬𐇭𐇮𐇯𐇰𐇱𐇲𐇳𐇴𐇵𐇶𐇷𐇸𐇹𐇺𐇻𐇼𐇽𐇾𐇿𐈀𐈁𐈂𐈃𐈄𐈅𐈆𐈇𐈈𐈉𐈊𐈋𐈌𐈍𐈎𐈏𐈐𐈑𐈒𐈓𐈔𐈕𐈖𐈗𐈘𐈙𐈚𐈛𐈜𐈝𐈞𐈟𐈠𐈡𐈢𐈣𐈤𐈥𐈦𐈧𐈨𐈩𐈪𐈫𐈬𐈭𐈮𐈯𐈰𐈱𐈲𐈳𐈴𐈵𐈶𐈷𐈸𐈹𐈺𐈻𐈼𐈽𐈾𐈿𐉀𐉁𐉂𐉃𐉄𐉅𐉆𐉇𐉈𐉉𐉊𐉋𐉌𐉍𐉎𐉏𐉐𐉑𐉒𐉓𐉔𐉕𐉖𐉗𐉘𐉙𐉚𐉛𐉜𐉝𐉞𐉟𐉠𐉡𐉢𐉣𐉤𐉥𐉦𐉧𐉨𐉩𐉪𐉫𐉬𐉭𐉮𐉯𐉰𐉱𐉲𐉳𐉴𐉵𐉶𐉷𐉸𐉹𐉺𐉻𐉼𐉽𐉾𐉿𐊀𐊁𐊂𐊃𐊄𐊅𐊆𐊇𐊈𐊉𐊊𐊋𐊌𐊍𐊎𐊏𐊐𐊑𐊒𐊓𐊔𐊕𐊖𐊗𐊘𐊙𐊚𐊛𐊜𐊝𐊞𐊟𐊠𐊡𐊢𐊣𐊤𐊥𐊦𐊧𐊨𐊩𐊪𐊫𐊬𐊭𐊮𐊯𐊰𐊱𐊲𐊳𐊴𐊵𐊶𐊷𐊸𐊹𐊺𐊻𐊼𐊽𐊾𐊿𐋀𐋁𐋂𐋃𐋄𐋅𐋆𐋇𐋈𐋉𐋊𐋋𐋌𐋍𐋎𐋏𐋐𐋑𐋒𐋓𐋔𐋕𐋖𐋗𐋘𐋙𐋚𐋛𐋜𐋝𐋞𐋟𐋠𐋡𐋢𐋣𐋤𐋥𐋦𐋧𐋨𐋩𐋪𐋫𐋬𐋭𐋮𐋯𐋰𐋱𐋲𐋳𐋴𐋵𐋶𐋷𐋸𐋹𐋺𐋻𐋼𐋽𐋾𐋿𐌀𐌁𐌂𐌃𐌄𐌅𐌆𐌇𐌈𐌉𐌊𐌋𐌌𐌍𐌎𐌏𐌐𐌑𐌒𐌓𐌔𐌕𐌖𐌗𐌘𐌙𐌚𐌛𐌜𐌝𐌞𐌟𐌠𐌡𐌢𐌣𐌤𐌥𐌦𐌧𐌨𐌩𐌪𐌫𐌬𐌭𐌮𐌯𐌰𐌱𐌲𐌳𐌴𐌵𐌶𐌷𐌸𐌹𐌺𐌻𐌼𐌽𐌾𐌿𐍀𐍁𐍂𐍃𐍄𐍅𐍆𐍇𐍈𐍉𐍊𐍋𐍌𐍍𐍎𐍏𐍐𐍑𐍒𐍓𐍔𐍕𐍖𐍗𐍘𐍙𐍚𐍛𐍜𐍝𐍞𐍟𐍠𐍡𐍢𐍣𐍤𐍥𐍦𐍧𐍨𐍩𐍪𐍫𐍬𐍭𐍮𐍯𐍰𐍱𐍲𐍳𐍴𐍵𐍶𐍷𐍸𐍹𐍺𐍻𐍼𐍽𐍾𐍿𐎀𐎁𐎂𐎃𐎄𐎅𐎆𐎇𐎈𐎉𐎊𐎋𐎌𐎍𐎎𐎏𐎐𐎑𐎒𐎓𐎔𐎕𐎖𐎗𐎘𐎙𐎚𐎛𐎜𐎝𐎞𐎟𐎠𐎡𐎢𐎣𐎤𐎥𐎦𐎧𐎨𐎩𐎪𐎫𐎬𐎭𐎮𐎯𐎰𐎱𐎲𐎳𐎴𐎵𐎶𐎷𐎸𐎹𐎺𐎻𐎼𐎽𐎾𐎿�0�1�2�3�4�5�6�7�8�9�A�B�C�D�E�F�G�H�I�J�K�L�M�N�O�P�Q�R�S�T�U�V�W�X�Y�Z�[�]�^�\_�`�a�b�c�d�e�f�g�h�i�j�k�l�m�n�o�p�q�r�s�t�u�v�w�x�y�z�{�}�|�~�.�!�"�\$�%�&�'�(�)�\*�+�,�-�.�/�:�;�<�=>�?�@�A�B�C�D�E�F�G�H�I�J�K�L�M�N�O�P�Q�R�S�T�U�V�W�X�Y�Z�[�]�^�\_�`�a�b�c�d�e�f�g�h�i�j�k�l�m�n�o�p�q�r�s�t�u�v�w�x�y�z�{�}�|�~�.�!�"�\$�%�&�'�(�)�\*�+�,�-�.�/�:�;�<�=>�?�@�A�B�C�D�E�F�G�H�I�J�K�L�M�N�O�P�Q�R�S�T�U�V�W�X�Y�Z�[�]�^�\_�`�a�b�c�d�e�f�g�h�i�j�k�l�m�n�o�p�q�r�s�t�u�v�w�x�y�z�{�}�|�~�.�!�"�\$�%�&�'�(�)�\*�+�,�-�.�/�:�;�<�=>�?�@�A�B�C�D�E�F�G�H�I�J�K�L�M�N�O�P�Q

<(FYDIBOHF23SPDLT)/cn=Recipients/cn=79ac94a57db0d5428b7c91bbdd61893975-Houchens, C>;  
EX Robert.Johnson  
<垠口滓垠勒┐麓稠刊伯添垠勒┐麓擅禮义卉剔哟嗽[則問□校甜觚輒⊗廙邸呌□乃劍鈴偉萼呖□乃气匯  
蔞恸伙ゝ伏／答岢吗穉穉⊕偶蘭□彼么体w刪O>;  
<'swaminathans@who.int'>;  
<'ryanm@who.int'>;  
<'simonsons@who.int'>;  
<'simaom@who.int'>;  
<'aylawardb@who.int'>;  
垠口滓垠勒┐麓稠刊伯添垠勒┐麓擅禮义卉剔哟嗽[則問□校甜觚輒⊗廙邸呌□乃劍鈴偉萼呖□乃佻柏煩  
蔭ゝ蓋伙筴纂然絀蔭ゝゑ?飮□口藤潰┘q刪I <EX>;  
垠口滓垠勒┐麓稠刊伯添垠勒┐麓擅禮义卉剔哟嗽[則問□校甜觚輒⊗廙邸呌□乃劍鈴偉萼呖□乃裁??  
簪ゞ母伣衲籍季棧蘭⊕孃々く口奈莖薈割I <EX>;  
</o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=592292f16e754034a268cecb6e2c3d29-Cohn, Amand  
<anc0@cdc.gov>;  
垠口滓垠勒┐麓稠刊伯添垠勒┐麓擅禮义卉剔哟嗽[則問□校甜觚輒⊗廙邸呌□乃劍鈴偉萼呖□乃栽坑々  
厫帛答多从恰々口薩廿纏裯挂□位呖佇蓂窰，<EX>;  
垠口滓垠勒┐麓稠刊伯添垠勒┐麓擅禮义卉剔哟嗽[則問□校甜觚輒⊗廙邸呌□乃劍鈴偉萼呖□乃々甲襁  
褓巫坯伣(篤爲嫺田膾帆嬋桂稭□剂住古伎H <EX>;  
垠口滓垠勒┐麓稠刊伯添垠勒┐麓擅禮义卉剔哟嗽[則問□校甜觚輒⊗廙邸呌□乃劍鈴偉萼呖□乃祝蒸箬  
姍術竽箇□口籟齡峇圻仵閑襦紆□鑿勒藜□挺I <EX>;  
豺脔蹉响矜坳霏躄僮吼兵繡噉燹錫□整L <SMTP>;  
垠口滓垠勒┐麓稠刊伯添垠勒┐麓擅禮义卉剔哟嗽[則問□校甜觚輒⊗廙邸呌□乃劍鈴偉萼呖□乃栖田帆  
得蓋腫口何恆腩軎怗縶襤紆□穀唅嫂N <EX>;  
</o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=c800c9096ab34f7da2dfded90f2e71ba-Michael.Smi>;  
SMTP 豺脔区脊熨棚鋈□瓶G <sadam@fnih.org>;  
</o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=11a174ee688e426392d98ba9cd5e1945-cliff.lane. clane.NIH  
<CLANE@niaid.nih.gov>;  
</o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=80a408be55b14221a42c2b91002d6bf7-Ayala, Ana Ayala, Ana  
(OS/OGA) <Ana.Ayala@hhs.gov>;  
</o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=33c7d84fb82a48eeba8f4e0be680df60-TracyCarson Tracy  
Carson <CarsonTL@state.gov>;  
nanneic@who.int 'NANNEI, Claudia' <nanneic@who.int>;  
豺脔蹉鉄華衛瞪瑩□义T 맷□ㄱ越λ号□ <MCLIESH, Wendy Maree>;  
EX </o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=21d0317abb9fd1bb2779f8b95826543-Fernandez,>;  
Bleimund, Emily (OS/OGA) <sip:emily.bleimund@hhs.gov>;  
bruce.tromberg@nih.gov 맷□ㄱ越λ号□ <trombergbj.NIH>;  
</o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=67117ba1e0034e4ef93d50c794331e1f-kathleen.do Dooling,  
Kathleen L. (CDC/DDID/NCIRD/DVD) <vic9@cdc.gov>;  
</o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub Gruber,  
Marion (FDA/CBER) <Marion.Gruber@fda.hhs.gov>;  
</o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau ??  
<KRAUSE.fda>;  
</o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=6bcf9a5e75bc42dea48e4009c5342397-ashley.thom <Thomas,  
Ashley (FDA/CDER)>;  
<'borgesa@who.int'>;  
垠口滓垠勒┐麓稠刊伯添垠勒┐麓擅禮义卉剔哟嗽[則問□校甜觚輒⊗廙邸呌□乃劍鈴偉萼呖□乃啗編敦  
蘭／々伣役授帳至福／々壕ゞ甲纖□蒔鎖□吼鏹N <EX>;  
</o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=d79853f418ac488c9cd10b70d1e2b0f1-david.cho.f <Cho, David  
S (CBER) (FDA/CBER)>;

2 SMTP;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=afc96d003f9d4a41831a2d77566ed34e-david.wholl <Wholley,  
David (FNIH) [T]>;  
?? <EX>;  
<5>;  
<6>;  
Blatner, Gretta (OS/ASPR/BARDA) </o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=623cb123c2324236b1db6fb9153e0bbf-Blatner, Gr>;  
<□ き 째 穉 躑 謁 鐵 咕>;  
Ella Nudell 9 <d>;  
Lamourelle, Gabrielle (HHS/OS/OGA) <sip:gabrielle.lamourelle@hhs.gov>

<b>From:</b>	Kerr, Lawrence (HHS/OS/OGA) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE>
<b>SentVia:</b>	Lopez, Arnela (OS/OGA) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=505A8FE681584CA49E73F219976891AA-LOPEZ, ARNE>
<b>To:</b>	<p>Kerr, Lawrence (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE &lt;Lawrence.Kerr@hhs.gov&gt;;</p> <p>Weinberger, Collin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=641554fc7843407585827af5898d9c26-Weinberger, &lt;Collin.Weinberger@hhs.gov&gt;;</p> <p>Moudy, Robin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d421d3e0f6474bc3857583cfc5870d69-Moudy, Robi &lt;Robin.Moudy@hhs.gov&gt;;</p> <p>Chandrasekera, Ruvani (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=678d9ff8e02d477ab5d0516bd3659a34-Chandraseke &lt;Ruvani.Chandrasekera@hhs.gov&gt;;</p> <p>Ferrey, Seth (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2d976148be6c4ea5a25eeb0fd101809-Ferrey, Set &lt;Seth.Ferrey@hhs.gov&gt;;</p> <p>Aasen, Adam (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9df94b81b7f549e08c44a157bd583f5d-Aasen, Adam &lt;Adam.Aasen@hhs.gov&gt;;</p> <p>Snyder, Anne (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7410775a42a540bbb71438b93c600bc8-Snyder, Ann &lt;Anne.Snyder@hhs.gov&gt;;</p> <p>Olson, Leandra (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dac295d944ee4b67b464d7d5041bb916-Olson, Lean &lt;Leandra.Olson@hhs.gov&gt;;</p> <p>Schmeissner, Peter (HHS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ca385a113d96474289fae94d7ef94614-Schmeissner &lt;Peter.Schmeissner@hhs.gov&gt;;</p> <p>LaHood, Natalie (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d7d5e131fd394ab3b1b0eb6f232851f1-Lahood, Nat &lt;Natalie.Lahood@hhs.gov&gt;;</p> <p>Smith, Steven T (Geneva) &lt;SmithST1@state.gov&gt;;</p> <p>'SmithSR1@state.gov' &lt;SmithSR1@state.gov&gt;;</p> <p>Marks, Peter (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=df56588b970c43c8a9a2b9b31406746c-peter.marks &lt;Peter.Marks@fda.hhs.gov&gt;;</p> <p>Woodcock, Janet (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5f925e9a0f9147b186d40072d474d13d-janet.woodc &lt;Janet.Woodcock@fda.hhs.gov&gt;;</p> <p>Abdoo, Mark (FDA/OC) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d8893b91b3bd49b0978ac6b5d5423cd1-mark.abdoo. &lt;Mark.Abdoo@fda.hhs.gov&gt;;</p> <p>Disbrow, Gary (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0fd5845defda4dc0bb45f8fac629cf09-Disbrow, Ga &lt;Gary.Disbrow@hhs.gov&gt;;</p> <p>Houchens, Christopher (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7ac94a574bd04528b7c91bbd61893975-Houchens, C &lt;Christopher.Houchens@hhs.gov&gt;;</p> <p>Johnson, Robert (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0851e89240324306b78740a4a60745e2-Johnson, Ro &lt;Robert.Johnson@hhs.gov&gt;;</p> <p>'swaminathans@who.int' &lt;swaminathans@who.int&gt;;</p> <p>'ryanm@who.int' &lt;ryanm@who.int&gt;;</p> <p>'simonsons@who.int' &lt;simonsons@who.int&gt;;</p> <p>'simaom@who.int' &lt;simaom@who.int&gt;;</p> <p>'aylwardb@who.int' &lt;aylwardb@who.int&gt;;</p> <p>Messonnier, Nancy (CDC/DDID/NCIRD/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=eac7af7ae9754d4290d7aa8cdb537078-Rosenstein &lt;nar5@cdc.gov&gt;;</p> <p>Helfand, Rita (CDC/DDID/NCEZID/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=28a17ce03de24abbb3e9c9e1363c4017-Helfand, Ri &lt;rh7@cdc.gov&gt;;</p>



Hyde, Terri (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=653839b51d4442a7b5ad95e605761104-Hyde, Terri <tkh4@cdc.gov>;

Cohn, Amanda (CDC/DDID/NCIRD/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=592292f16e754034a268cecb6e2c3d29-Cohn, Amand <anc0@cdc.gov>;

Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=62643d5586b14f1798171ce903c12ea4-Montgomery, <ztq9@cdc.gov>;

Brooks, John T. (CDC/DDID/NCHHSTP/DHPSE) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1e50fbf05c64442fb27c1dd6897ea0a6-Brooks, Joh <zud4@cdc.gov>;

Mair, Michael (FDA/OC) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f3e2b23223bc4a1abecf698a4122f6c3-michael.mai <Michael.Mair@fda.hhs.gov>;

'matthew.j.hepburn.civ@mail.mil' <matthew.j.hepburn.civ@mail.mil>;

Mcqueen, COL Anthony (HHS/IOS) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ac168b9de8d04b0197d9839acff236c0-Mcqueen, An <Anthony.Mcqueen@hhs.gov>;

Smith, Michael (MIL) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c800c9096ab34f7da2dfd90f2e71ba-Michael.Smi <michael.w.smith93.mil@mail.mil>;

'sadam@fnih.org' <sadam@fnih.org>;

Lane, Cliff (NIH/NIAD) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=11a174ee688e426392d98ba9cd5e1945-cliff.lane. <CLANE@niaid.nih.gov>;

Ayala, Ana (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=80a408be55b14221a42c2b91002d6bf7-Ayala, Ana <Ana.Ayala@hhs.gov>;

Tracy Carson /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=33c7d84fb82a48eeba8f4e0be680df60-TracyCarson <CarsonTL@state.gov>;

'NANNEI, Claudia' <nanneic@who.int>;

'MCLIESH, Wendy Maree' <mclieshw@who.int>;

Fernandez, Jose (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=21d0317abb9f4d1bb2779f8b95826543-Fernandez, <Jose.Fernandez@hhs.gov>;

Burr, Mara (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1789c53bbdbf412b9b31cc59cbd4bda2-Burr, Mara <Mara.Burr@hhs.gov>;

Bleimund, Emily (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b229d23be0e24e03a3fd8244c450fb6b-Bleimund, E <Emily.Bleimund@hhs.gov>;

Tromberg, Bruce (NIH/NIBIB) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8296eab89a64486a841aa06f835d77e0-bruce.tromb <bruce.tromberg@nih.gov>;

Scharf, Sarah (NIH/OD) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d7be58c4b45c4e978f7614d7d73425f9-sarah.schar <sarah.scharf@nih.gov>

CC:

Gruber, Marion (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub <Marion.Gruber@fda.hhs.gov>;

Krause, Philip (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau <Philip.Krause@fda.hhs.gov>;

Thomas, Ashley (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6bcf9a5e75bc42dea48e4009c5342397-ashley.thom <Ashley.Thomas@fda.hhs.gov>;

'borgesa@who.int' <borgesa@who.int>;

Bugin, Kevin (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=55c4e5e4038442ff8866f40f603e52ce-kevin.bugin <Kevin.Bugin@fda.hhs.gov>;

Cho, David S (CBER) (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d79853f418ac488c9cd10b70d1e2b0f1-david.cho.f <David.Cho@fda.hhs.gov>;

Sizemore, Christine (NIH/FIC) [E] <christine.sizemore@nih.gov>;

	<p>Wholley, David (FNIH) [T] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=afc96d003f9d4a41831a2d77566ed34e-david.wholl &lt;dwholley@fnih.org&gt;;</p> <p>Melencio, Cheryl (FNIH) [T] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c543edb17906477e8a65d209f589fce1-cheryl.mele &lt;cmelencio@fnih.org&gt;;</p> <p>Donis, Ruben (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=af00dcf720cb429f8e2accbe06ee32ff-Donis, Rube &lt;Ruben.Donis@hhs.gov&gt;;</p> <p>Blatner, Gretta (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=623cb123c2324236b1db6fb9153e0bbf-Blatner, Gr &lt;Gretta.Blatner@hhs.gov&gt;;</p> <p>Heemskerk, Jill (NIH/NIBIB) [E] &lt;jill.heemskerk@nih.gov&gt;;</p> <p>Ella Nudell (b)(6)@georgetown.edu&gt;;</p> <p>Lamourelle, Gabrielle (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2cf3cb1a840847b3af0ea0c4d0d137c1-Lamourelle, &lt;Gabrielle.Lamourelle@hhs.gov&gt;;</p> <p>Yarielka Arrieta (b)(6)@gmail.com&gt;</p>
<b>Subject:</b>	USG-WHO MCM Dialogue Call
<b>Date:</b>	2020/05/20 15:21:32
<b>Start Date:</b>	2020/05/29 08:00:00
<b>End Date:</b>	2020/05/29 09:00:00
<b>Priority:</b>	Normal
<b>Type:</b>	Appointment
<b>Location:</b>	WebEx/ Zoom
<b>Attendees:</b>	<p>Kerr, Lawrence (HHS/OS/OGA); Weinberger, Collin (OS/OGA); Moudy, Robin (OS/OGA); Chandrasekera, Ruvani (OS/OGA); Ferrey, Seth (OS/OGA); Aasen, Adam (HHS/OS/OGA); Snyder, Anne (HHS/OS/OGA); Wood, Rachel (HHS/OS/OGA); Olson, Leandra (HHS/OS/OGA); Schmeissner, Peter (HHS/OGA); LaHood, Natalie (OS/OGA); Smith, Steven T (Geneva); 'SmithSR1@state.gov'; Marks, Peter (FDA/CBER); Woodcock, Janet (FDA/CDER); Abdoo, Mark (FDA/OC); Disbrow, Gary (OS/ASPR/BARDA); Houchens, Christopher (OS/ASPR/BARDA); Johnson, Robert (OS/ASPR/BARDA); 'swaminathans@who.int'; 'ryanm@who.int'; 'simonsons@who.int'; 'simaom@who.int'; 'aylwardb@who.int'; Messonnier, Nancy (CDC/DDID/NCIRD/OD); Helfand, Rita (CDC/DDID/NCEZID/OD); Hyde, Terri (CDC/DDPHSIS/CGH/GID); Cohn, Amanda (CDC/DDID/NCIRD/OD); Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP); Brooks, John T. (CDC/DDID/NCHHSTP/DHPSE); Mair, Michael (FDA/OC); 'matthew.j.hepburn.civ@mail.mil'; McQueen, COL Anthony (HHS/IOS); Smith, Michael (MIL); 'sadam@fnih.org'; Lane, Cliff (NIH/NIAID) [E]; Gruber, Marion (FDA/CBER); Krause, Philip (FDA/CBER); Thomas, Ashley (FDA/CDER); 'borgesa@who.int'; Bugin, Kevin (FDA/CDER); Cho, David S (CBER) (FDA/CBER); Sizemore, Christine (NIH/FIC) [E]; Wholley, David (FNIH) [T]; Melencio, Cheryl (FNIH) [T]; Donis, Ruben (OS/ASPR/BARDA); Blatner, Gretta (OS/ASPR/BARDA); Ayala, Ana (OS/OGA); Tracy Carson; 'NANNEI, Claudia'; 'MCLIESH, Wendy Maree'; Fernandez, Jose (OS/OGA); Burr, Mara (HHS/OS/OGA); Bleimund, Emily (OS/OGA); Tromberg, Bruce (NIH/NIBIB) [E]; Heemskerk, Jill (NIH/NIBIB) [E]; Ella Nudell; Lamourelle, Gabrielle (HHS/OS/OGA); Yarielka Arrieta</p>

Please join the USG-WHO MCM Dialogue Call. This will be a biweekly call on Fridays from 8 to 9 am ET/ 1400- 1500 Geneva.

We will share the final agenda and the WebEx or Zoom information.

If you have any questions, please contact [Arnela.Lopez@hhs.gov](mailto:Arnela.Lopez@hhs.gov) and [Ana.Ayala@hhs.gov](mailto:Ana.Ayala@hhs.gov).

Larry Kerr, PhD  
 Director  
 Office of Pandemic and Emerging Threats

Office of Global Affairs  
U.S. Department of Health and Human Services

<b>Sender:</b>	Kerr, Lawrence (HHS/OS/OGA) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE>; Lopez, Arnela (OS/OGA) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=505A8FE681584CA49E73F219976891AA-LOPEZ, ARNE>
<b>Recipient:</b>	Kerr, Lawrence (HHS/OS/OGA) /O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE <Lawrence.Kerr@hhs.gov>; Weinberger, Collin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=641554fc7843407585827af5898d9c26-Weinberger, <Collin.Weinberger@hhs.gov>; Moudy, Robin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d421d3e0f6474bc3857583cfc5870d69-Moudy, Robi <Robin.Moudy@hhs.gov>; Chandrasekera, Ruvani (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=678d9ff8e02d477ab5d0516bd3659a34-Chandraseke <Ruvani.Chandrasekera@hhs.gov>; Ferrey, Seth (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2d976148be6c4ea5a25eebf0fd101809-Ferrey, Set <Seth.Ferrey@hhs.gov>; Aasen, Adam (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9df94b81b7f549e08c44a157bd583f5d-Aasen, Adam <Adam.Aasen@hhs.gov>; Snyder, Anne (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7410775a42a540bbb71438b93c600bc8-Snyder, Ann <Anne.Snyder@hhs.gov>; Olson, Leandra (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dac295d944ee4b67b464d7d5041bb916-Olson, Lean <Leandra.Olson@hhs.gov>; Schmeissner, Peter (HHS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ca385a113d96474289fae94d7ef94614-Schmeissner <Peter.Schmeissner@hhs.gov>; LaHood, Natalie (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d7d5e131fd394ab3b1b0eb6f232851f1-Lahood, Nat <Natalie.Lahood@hhs.gov>; Smith, Steven T (Geneva) <SmithST1@state.gov>; 'SmithSR1@state.gov' <SmithSR1@state.gov>; Marks, Peter (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=df56588b970c43c8a9a2b9b31406746c-peter.marks <Peter.Marks@fda.hhs.gov>; Woodcock, Janet (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5f925e9a0f9147b186d40072d474d13d-janet.woodc <Janet.Woodcock@fda.hhs.gov>; Abdoo, Mark (FDA/OC) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d8893b91b3bd49b0978ac6b5d5423cd1-mark.abdoo. <Mark.Abdoo@fda.hhs.gov>; Disbrow, Gary (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0fd5845defda4dc0bb45f8fac629cf09-Disbrow, Ga <Gary.Disbrow@hhs.gov>; Houchens, Christopher (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7ac94a574bd04528b7c91bbd61893975-Houchens, C <Christopher.Houchens@hhs.gov>; Johnson, Robert (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0851e89240324306b78740a4a60745e2-Johnson, Ro <Robert.Johnson@hhs.gov>; 'swaminathans@who.int' <swaminathans@who.int>; 'ryanm@who.int' <ryanm@who.int>;

'simonsons@who.int' <simonsons@who.int>;  
 'simaom@who.int' <simaom@who.int>;  
 'aylwardb@who.int' <aylwardb@who.int>;  
 Messonnier, Nancy (CDC/DDID/NCIRD/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=eac7af7ae9754d4290d7aa8cdb537078-Rosenstein <nar5@cdc.gov>;  
 Helfand, Rita (CDC/DDID/NCEZID/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=28a17ce03de24abbb3e9c9e1363c4017-Helfand, Ri <rzh7@cdc.gov>;  
 Hyde, Terri (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=653839b51d4442a7b5ad95e605761104-Hyde, Terri <tkh4@cdc.gov>;  
 Cohn, Amanda (CDC/DDID/NCIRD/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=592292f16e754034a268cecb6e2c3d29-Cohn, Amand <anc0@cdc.gov>;  
 Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=62643d5586b14f1798171ce903c12ea4-Montgomery, <ztq9@cdc.gov>;  
 Brooks, John T. (CDC/DDID/NCHSTP/DHPSE) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1e50bf05c64442fb27c1dd6897ea0a6-Brooks, Joh <zud4@cdc.gov>;  
 Mair, Michael (FDA/OC) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f3e2b23223bc4a1abecf698a4122f6c3-michael.mai <Michael.Mair@fda.hhs.gov>;  
 'matthew.j.hepburn.civ@mail.mil' <matthew.j.hepburn.civ@mail.mil>;  
 Mcqueen, COL Anthony (HHS/IOS) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ac168b9de8d04b0197d9839acff236c0-Mcqueen, An <Anthony.Mcqueen@hhs.gov>;  
 Smith, Michael (MIL) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c800c9096ab34f7da2dfded90f2e71ba-Michael.Smi <michael.w.smith93.mil@mail.mil>;  
 'sadam@fnih.org' <sadam@fnih.org>;  
 Lane, Cliff (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=11a174ee688e426392d98ba9cd5e1945-cliff.lane. <CLANE@niaid.nih.gov>;  
 Gruber, Marion (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub <Marion.Gruber@fda.hhs.gov>;  
 Krause, Philip (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau <Philip.Krause@fda.hhs.gov>;  
 Thomas, Ashley (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6bcf9a5e75bc42dea48e4009c5342397-ashley.thom <Ashley.Thomas@fda.hhs.gov>;  
 'borgesa@who.int' <borgesa@who.int>;  
 Bugin, Kevin (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=55c4e5e4038442ff8866f40f603e52ce-kevin.bugin <Kevin.Bugin@fda.hhs.gov>;  
 Cho, David S (CBER) (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d79853f418ac488c9cd10b70d1e2b0f1-david.cho.f <David.Cho@fda.hhs.gov>;  
 Sizemore, Christine (NIH/FIC) [E] <christine.sizemore@nih.gov>;  
 Wholley, David (FNIH) [T] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=afc96d003f9d4a1831a2d77566ed34e-david.wholl <dwholley@fnih.org>;  
 Melencio, Cheryl (FNIH) [T] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c543edb17906477e8a65d209f589fce1-cheryl.mele <cmelencio@fnih.org>;  
 Donis, Ruben (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=af00dcf720cb429f8e2accbe06ee32ff-Donis, Rube <Ruben.Donis@hhs.gov>;  
 Blatner, Gretta (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=623cb123c2324236b1db6fb9153e0bbf-Blatner, Gr <Gretta.Blatner@hhs.gov>;  
 Ayala, Ana (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=80a408be55b14221a42c2b91002d6bf7-Ayala, Ana

	<p>&lt;Ana.Ayala@hhs.gov&gt;;  Tracy Carson /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=33c7d84fb82a48eeba8f4e0be680df60-TracyCarson  &lt;CarsonTL@state.gov&gt;;  'NANNEI, Claudia' &lt;nanneic@who.int&gt;;  'MCLIESH, Wendy Maree' &lt;mclieshw@who.int&gt;;  Fernandez, Jose (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=21d0317abb9f4d1bb2779f8b95826543-Fernandez,  &lt;Jose.Fernandez@hhs.gov&gt;;  Burr, Mara (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=1789c53bbdbf412b9b31cc59cbd4bda2-Burr, Mara  &lt;Mara.Burr@hhs.gov&gt;;  Bleimund, Emily (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=b229d23be0e24e03a3fd8244c450fb6b-Bleimund, E  &lt;Emily.Bleimund@hhs.gov&gt;;  Tromberg, Bruce (NIH/NIBIB) [E] /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=8296eab89a64486a841aa06f835d77e0-bruce.tromb  &lt;bruce.tromberg@nih.gov&gt;;  Heemskerk, Jill (NIH/NIBIB) [E] &lt;jill.heemskerk@nih.gov&gt;;  Ella Nudell (b)(6) @georgetown.edu&gt;;  Lamourelle, Gabrielle (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=2cf3cb1a840847b3af0ea0c4d0d137c1-Lamourelle,  &lt;Gabrielle.Lamourelle@hhs.gov&gt;;  Yarielka Arrieta (b)(6) @gmail.com&gt;;  Scharf, Sarah (NIH/OD) [E] /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=d7be58c4b45c4e978f7614d7d73425f9-sarah.schar  &lt;sarah.scharf@nih.gov&gt;</p>
<b>Sent Date:</b>	2020/05/20 15:21:33
<b>Delivered Date:</b>	2020/05/20 15:21:32
<b>To:</b>	<p>Kerr, Lawrence (HHS/OS/OGA) /O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP  (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE  &lt;Lawrence.Kerr@hhs.gov&gt;;  Weinberger, Collin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=641554fc7843407585827af5898d9c26-Weinberger,  &lt;Collin.Weinberger@hhs.gov&gt;;  Moudy, Robin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=d421d3e0f6474bc3857583cfc5870d69-Moudy, Robi  &lt;Robin.Moudy@hhs.gov&gt;;  Chandrasekera, Ruvani (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=678d9ff8e02d477ab5d0516bd3659a34-Chandraseke  &lt;Ruvani.Chandrasekera@hhs.gov&gt;;  Ferrey, Seth (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=2d976148be6c4ea5a25eebf0fd101809-Ferrey, Set  &lt;Seth.Ferrey@hhs.gov&gt;;  Aasen, Adam (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=9df94b81b7f549e08c44a157bd583f5d-Aasen, Adam  &lt;Adam.Aasen@hhs.gov&gt;;  Snyder, Anne (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=7410775a42a540bbb71438b93c600bc8-Snyder, Ann  &lt;Anne.Snyder@hhs.gov&gt;;  Wood, Rachel (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=036283582622451c990865536a2e537b-Wood, Rache  &lt;Rachel.Wood@hhs.gov&gt;;  Olson, Leandra (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=dac295d944ee4b67b464d7d5041bb916-Olson, Lean  &lt;Leandra.Olson@hhs.gov&gt;;  Schmeissner, Peter (HHS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=ca385a113d96474289fae94d7ef94614-Schmeissner  &lt;Peter.Schmeissner@hhs.gov&gt;;  /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=d7d5e131fd394ab3b1b0eb6f232851f1-Lahood, Nat &lt;LaHood,  Natalie (OS/OGA)&gt;;  LaHood, Natalie (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=d7d5e131fd394ab3b1b0eb6f232851f1-Lahood, Nat &lt;LaHood,  Natalie (OS/OGA)&gt;;</p>



	<pre>(FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub &lt;Gruber, Marion (FDA/CBER)&gt;; /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau &lt;Krause, Philip (FDA/CBER)&gt;; /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6bcf9a5e75bc42dea48e4009c5342397-ashley.thom &lt;Thomas, Ashley (FDA/CDER)&gt;; ?? 맵□ㄱ越λ号□ &lt;Ashley.Thomas.fda&gt;;  蚪愕終粉莧椒址佈鈔呖 맵□ㄱ越λ号□ &lt;borgesa@who.int&gt;; Kevin.Bugin@fda.hhs.gov &lt;Bugin, Kevin (FDA/CDER)&gt;; 塢□滓塢動↘莧稠卅伯添塢動↘莧擅禮义卉剔哟嗽[則問□校甜觥輻⊗匭歙叫□乃劍齡偉華呶□乃藕恰馓 祉┐柏劬帑們滕┐祈臍筠箴挺□穉鑲□軌□F 맵□ㄱ越λ号□ &lt;ChoD.fda&gt;;  蚪愕緝刷卉鏢藹匪婉鑿粉瞞鐳□佇V 맵□ㄱ越λ号□ &lt;Sizemore, Christine (NIH/FIC) [E]&gt;; dwholley@fnih.org &lt;Wholley, David (FNIH) [T]&gt;; cmelencio@fnih.org &lt;Melencio, Cheryl (FNIH) [T]&gt;; 6 EX; &lt;7&gt;; 8 SMTP; 9 EX</pre>
Type:	OLE.CLASS.{00061055-0000-0000-C000-000000000046}

Kerr, Lawrence (HHS/OS/OGA) /o=EXCHANGELABS/ou=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/cn=RECIPIENTS/cn=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE <Lawrence.Kerr@hhs.gov>;  
Weinberger, Collin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=641554fc7843407585827af5898d9c26-Weinberger, <Collin.Weinberger@hhs.gov>;  
Moudy, Robin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d421d3e0f6474bc3857583cfc5870d69-Moudy, Robi <Robin.Moudy@hhs.gov>;  
Chandrasekera, Ruvani (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=678d9ff8e02d477ab5d0516bd3659a34-Chandraseke <Ruvani.Chandrasekera@hhs.gov>;  
Ferrey, Seth (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2d976148be6c4ea5a25eebf0fd101809-Ferrey, Set <Seth.Ferrey@hhs.gov>;  
Aasen, Adam (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9df94b81b7f549e08c44a157bd583f5d-Aasen, Adam <Adam.Aasen@hhs.gov>;  
**Recipient:** Snyder, Anne (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7410775a42a540bbb71438b93c600bc8-Snyder, Ann <Anne.Snyder@hhs.gov>;  
Wood, Rachel (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=036283582622451c990865536a2e537b-Wood, Rache <Rachel.Wood@hhs.gov>;  
Olson, Leandra (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dac295d944ee4b67b464d7d5041bb916-Olson, Lean <Leandra.Olson@hhs.gov>;  
Schmeissner, Peter (HHS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ca385a113d96474289fae94d7ef94614-Schmeissner <Peter.Schmeissner@hhs.gov>;  
/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d7d5e131fd394ab3b1b0eb6f232851f1-Lahood, Nat <LaHood, Natalie (OS/OGA)>;  
LaHood, Natalie (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d7d5e131fd394ab3b1b0eb6f232851f1-Lahood, Nat <LaHood, Natalie (OS/OGA)>;  
맵□ᄇᆞᆫᆯᆡᆺ;  
𐤀𐤍𐤏𐤔𐤕𐤌𐤓 Marks, Peter (FDA/CBER);

0瘳龔□鄧璽劄 Woodcock, Janet (FDA/CDER);  
 髑嶰哩鯢檐訐玆별 Abdoos, Mark (FDA/OC);  
 EX;  
 𠂇□畚窻辨筭I儗 Christopher.Houchens.os </o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=7ac94a574bd04528b7c91bbd61893975-Houchens, C>;  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=0851e89240324306b78740a4a60745e2-Johnson, Ro  
 <Robert.Johnson@hhs.gov>;  
 SMTP;  
 SMTP;  
 SMTP;  
 SMTP;  
 SMTP;  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=eac7af7ae9754d4290d7aa8cdb537078-Rosenstein  
 <Messonnier, Nancy (CDC/DDID/NCIRD/OD)>;  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=28a17ce03de24abbb3e9c9e1363c4017-Helfand, Ri <Helfand,  
 Rita (CDC/DDID/NCEZID/OD)>;  
 塏□滓塏勅↵莨穉卞伯淦塏勑↵莨漣禮义弁剔哟噉[則問□校甜毓輒Ⓢ廙跡叫□乃劍鈴偉蕁呖□乃栽ヲヱ  
 箱↵母伋秬穉季悽蘭Ⓢ孃↳く □奈蓋蒟割I <Hyde, Terri (CDC/DDPHSIS/CGH/GID)>;  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=592292f16e754034a268cecb6e2c3d29-Cohn, Amand  
 <anc0@cdc.gov>;  
 Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative  
 Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=62643d5586b14f1798171ce903c12ea4-Montgomery,  
 <ztaq9@cdc.gov>;  
 Brooks, John T. (CDC/DDID/NCHSTP/DHPSE) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=1e50bf05c6442fb27c1dd6897ea0a6-Brooks, Joh  
 <zud4@cdc.gov>;  
 EX Michael.Mair.fda  
 &塏□滓塏勑↵莨穉卞伯淦塏勑↵莨漣禮义弁剔哟噉[則問□校甜毓輒Ⓢ廙跡叫□乃劍鈴偉蕁呖□乃祝熬  
 簪孛(尙)簪飭□簪齡垓軫佃憊浸紂□鑿勑萊□梃I>;  
 猡脩齕哟鈺玲霏蹯僅吼兎縹躑躑□鑿L <SMTP>;  
 EX ?? </o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=ac168b9de8d04b0197d9839acff236c0-Mcqueen, An>;  
 塏□滓塏勑↵莨穉卞伯淦塏勑↵莨漣禮义弁剔哟噉[則問□校甜毓輒Ⓢ廙跡叫□乃劍鈴偉蕁呖□乃綵十緝  
 廿些簪仇孺協腦膾膳朥ⓈⓈ營口鑿勑萊□猡I <EX>;  
 " SMTP;  
 塏□滓塏勑↵莨穉卞伯淦塏勑↵莨漣禮义弁剔哟噉[則問□校甜毓輒Ⓢ廙跡叫□乃劍鈴偉蕁呖□乃ㄤ枋嬭  
 藪塚峽佐琨恬膾軫格綱厶↵人□魴福□稍藷. <EX>;  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub <Gruber,  
 Marion (FDA/CBER)>;  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau <Krause,  
 Philip (FDA/CBER)>;  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=6bcf9a5e75bc42dea48e4009c5342397-ashley.thom <Thomas,  
 Ashley (FDA/CDER)>;  
 ?? 뎡□ᄇ越λ号□ <Ashley.Thomas.fda>;  
 猡脩綾鞲莨穉址佈涉呖 뎡□ᄇ越λ号□ <borgesa@who.int>;  
 Kevin.Bugin@fda.hhs.gov <Bugin, Kevin (FDA/CDER)>;  
 塏□滓塏勑↵莨穉卞伯淦塏勑↵莨漣禮义弁剔哟噉[則問□校甜毓輒Ⓢ廙跡叫□乃劍鈴偉蕁呖□乃臚恰區  
 袷↵伯劼峽們膝く 祈臚筠篸誕□縹鑲□勑□F 뎡□ᄇ越λ号□ <ChoD.fda>;  
 猡脩絛刳弁鐮鑲匿婉夔鞲縹鎔肭□佇V 뎡□ᄇ越λ号□ <Sizemore, Christine (NIH/FIC) [E]>;  
 dwholley@fnih.org <Wholley, David (FNIH) [T]>;  
 cmelencio@fnih.org <Melencio, Cheryl (FNIH) [T]>;  
 塏□滓塏勑↵莨穉卞伯淦塏勑↵莨漣禮义弁剔哟噉[則問□校甜毓輒Ⓢ廙跡叫□乃劍鈴偉蕁呖□乃栽茲蔣  
 懶纏孛伏茲蕊臚垓篤↵ヲう 簪□魴哟噉o譜R <Blatner, Gretta (OS/ASPR/BARDA)>;



	<p>           垠□滓垠勒 丩麓稠卅伯添垠勒 丩麓濯禮义弄剔哟噉[則問□校甜觚輒⊗匱詠叫□乃劍齡偉纂呖□乃梔殄 /&gt;            觔屏簪參術枋(佻)得(佻)埕綈□奩鮪·禮務 &lt;EX&gt;;            垠□滓垠勒 丩麓稠卅伯添垠勒 丩麓濯禮义弄剔哟噉[則問□校甜觚輒⊗匱詠叫□乃劍齡偉纂呖□乃紉纏            伙篤(佻)恁茲嶺梔(佻) 遠帆臙垠□剔綈罽剝体N &lt;EX&gt;;            'NANNEI, Claudia' &lt;nanneic@who.int&gt;;            'MCLIESH, Wendy Maree' &lt;mclieshw@who.int&gt;;            垠□滓垠勒 丩麓稠卅伯添垠勒 丩麓濯禮义弄剔哟噉[則問□校甜觚輒⊗匱詠叫□乃劍齡偉纂呖□乃(佻)臙            煩簪得(佻)纂嶺恰梔得市坵仔□穉兵 丩蓋⊕ Fernandez, Jose (OS/OGA) &lt;Jose.Fernandez.OS&gt;;            垠□滓垠勒 丩麓稠卅伯添垠勒 丩麓濯禮义弄剔哟噉[則問□校甜觚輒⊗匱詠叫□乃劍齡偉纂呖□乃(佻)極綱            丩纂嶺(佻)梔得 綈屏綱臙纂穉□吼割挺梔 ?? &lt;5&gt;;            兕濾臙務馮臙絛 /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=b229d23be0e24e03a3fd8244c450fb6b-Bleimund, E;            6 EX;            &lt;7&gt;;            8 SMTP;            9 EX;            &lt;:&gt;         </p>
To:	<p>           Kerr, Lawrence (HHS/OS/OGA) /O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP            (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE            &lt;Lawrence.Kerr@hhs.gov&gt;;            Weinberger, Collin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=641554fc7843407585827af5898d9c26-Weinberger,            &lt;Collin.Weinberger@hhs.gov&gt;;            Moudy, Robin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=d421d3e0f6474bc3857583cfc5870d69-Moudy, Robi            &lt;Robin.Moudy@hhs.gov&gt;;            Chandrasekera, Ruvani (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=678d9ff8e02d477ab5d0516bd3659a34-Chandraseke            &lt;Ruvani.Chandrasekera@hhs.gov&gt;;            Ferrey, Seth (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=2d976148be6c4ea5a25eebf0fd101809-Ferrey, Set            &lt;Seth.Ferrey@hhs.gov&gt;;            Aasen, Adam (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=9df94b81b7f549e08c44a157bd583f5d-Aasen, Adam            &lt;Adam.Aasen@hhs.gov&gt;;            Snyder, Anne (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=7410775a42a540bbb71438b93c600bc8-Snyder, Ann            &lt;Anne.Snyder@hhs.gov&gt;;            Wood, Rachel (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=036283582622451c990865536a2e537b-Wood, Rache            &lt;Rachel.Wood@hhs.gov&gt;;            Olson, Leandra (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=dac295d944ee4b67b464d7d5041bb916-Olson, Lean            &lt;Leandra.Olson@hhs.gov&gt;;            Schmeissner, Peter (HHS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=ca385a113d96474289fae94d7ef94614-Schmeissner            &lt;Peter.Schmeissner@hhs.gov&gt;;            /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=d7d5e131fd394ab3b1b0eb6f232851f1-Lahood, Nat &lt;LaHood,            Natalie (OS/OGA)&gt;;            LaHood, Natalie (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=d7d5e131fd394ab3b1b0eb6f232851f1-Lahood, Nat &lt;LaHood,            Natalie (OS/OGA)&gt;;            맵□ᄇ越入号□;            𐄂𐄂𐄂𐄂入誘練𐄂 Marks, Peter (FDA/CBER);            𐄂𐄂𐄂𐄂□𐄂𐄂𐄂 Woodcock, Janet (FDA/CDER);            𐄂𐄂𐄂𐄂𐄂𐄂𐄂𐄂 Abdoo, Mark (FDA/OC);            EX;            𐄂𐄂□𐄂𐄂𐄂𐄂𐄂 Christopher.Houchens.os &lt;/o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=7ac94a574bd04528b7c91bbd61893975-Houchens, C&gt;;            /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=0851e89240324306b78740a4a60745e2-Johnson, Ro         </p>



	7"纂陵倪憐得步 繼屏綢膜簾穠口吼割稭稭 Burr, Mara (HHS/OS/OGA) <Mara.Burr>; /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b229d23be0e24e03a3fd8244c450fb6b-Bleimund, E <Bleimund, Emily (OS/OGA)>; /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b229d23be0e24e03a3fd8244c450fb6b-Bleimund, E Tromberg, Bruce (NIH/NIBIB) [E]; <, >; <->; 6 EX; /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=afc96d003f9d4a41831a2d77566ed34e-david.wholl Melencio, Cheryl (FNIH) [T]; 8 EX; /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=623cb123c2324236b1db6fb9153e0bbf-Blatner, Gr <Blatner, Gretta (OS/ASPR/BARDA)>
<b>Subject:</b>	USG-WHO Dialogue on COVID-19 MCMs
<b>Type:</b>	OLE.CLASS.{00061055-0000-0000-C000-000000000046}

Please join the USG-WHO Dialogue on COVID-19 MCMs. This week's call will be on Friday, July 10 from 9 - 9:45 am ET/ 1500 - 1545 Geneva.

Domestic: (b)(6)  
 International: (b)(6)  
 Participant Passcode: (b)(6)

If you have any questions, please contact [Arnela.Lopez@hhs.gov](mailto:Arnela.Lopez@hhs.gov) and [Ruvani.Chandrasekera@hhs.gov](mailto:Ruvani.Chandrasekera@hhs.gov).

Larry Kerr, PhD  
 Director  
 Office of Pandemic and Emerging Threats  
 Office of Global Affairs  
 U.S. Department of Health and Human Services

<b>Recipient:</b>	Kerr, Lawrence (HHS/OS/OGA) /O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE <Lawrence.Kerr@hhs.gov>; Weinberger, Collin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=641554fc7843407585827af5898d9c26-Weinberger, <Collin.Weinberger@hhs.gov>; Moudy, Robin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d421d3e0f6474bc3857583cfc5870d69-Moudy, Robi <Robin.Moudy@hhs.gov>; Chandrasekera, Ruvani (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=678d9ff8e02d477ab5d0516bd3659a34-Chandraseke <Ruvani.Chandrasekera@hhs.gov>; Ferrey, Seth (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2d976148be6c4ea5a25eebf0fd101809-Ferrey, Set <Seth.Ferrey@hhs.gov>; Aasen, Adam (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9df94b81b7f549e08c44a157bd583f5d-Aasen, Adam <Adam.Aasen@hhs.gov>; Snyder, Anne (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group
-------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

[illegible]



sip:gary.disbrow@hhs.gov d;  
 sip:christopher.houchens@hhs.gov </o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=7ac94a574bd04528b7c91bbd61893975-Houchens, C>;  
 SMTP;  
 SMTP;  
 SMTP;  
 SMTP;  
 SMTP;  
 EX;  
 EX;  
 EX;  
 ??;  
 Cohn, Amanda (CDC/DDID/NCIRD/OD) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=592292f16e754034a268cecb6e2c3d29-Cohn, Amand  
 <anc0@cdc.gov>;  
 Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative  
 Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=62643d5586b14f1798171ce903c12ea4-Montgomery,  
 <ztq9@cdc.gov>;  
 Brooks, John T. (CDC/DDID/NCHHSTP/DHPSE) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=1e50bf05c64442fb27c1dd6897ea0a6-Brooks, Joh  
 <zud4@cdc.gov>;  
 맵□ㄹㄹㄹㄹ /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=f3e2b23223bc4a1abecf698a4122f6c3-michael.mai;  
 matthew.j.hepburn.civ@mail.mil <맵□ㄹㄹㄹㄹ>;  
 Anthony.Mcqueen 맵□ㄹㄹㄹㄹ;  
 'sadam@fnih.org';  
 Lane, Cliff (NIH/NIAID) [E];  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=623cb123c2324236b1db6fb9153e0bbf-Blatner, Gr Ayala, Ana  
 (OS/OGA);  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=80a408be55b14221a42c2b91002d6bf7-Ayala, Ana Tracy  
 Carson;  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=33c7d84fb82a48eeba8f4e0be680df60-TracyCarson 'NANNEI,  
 Claudia';  
 'MCLIESH, Wendy Maree';  
 𐄂𐄂𐄂𐄂𐄂𐄂 Fernandez, Jose (OS/OGA);  
 𐄂𐄂𐄂𐄂𐄂 Burr, Mara (HHS/OS/OGA);  
 𐄂𐄂𐄂𐄂𐄂 EX;  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=b229d23be0e24e03a3fd8244c450fb6b-Bleimund, E EX;  
 <??>

CC:

/o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=11a174ee688e426392d98ba9cd5e1945-cliff.lane. Gruber,  
 Marion (FDA/CBER);  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub Krause,  
 Philip (FDA/CBER);  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau Thomas,  
 Ashley (FDA/CDER);  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=6bcf9a5e75bc42dea48e4009c5342397-ashley.thom  
 'borgesa@who.int';  
 ?? <'borgesa@who.int'>;  
 Bugin, Kevin (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=55c4e5e4038442ff8866f40f603e52ce-kevin.bugin <Bugin,  
 Kevin (FDA/CDER)>;  
 Cho, David S (CBER) (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=d79853f418ac488c9cd10b70d1e2b0f1-david.cho.f <Cho, David  
 S (CBER)>;  
 Sizemore, Christine (NIH/FIC) [E] <맵□ㄹㄹㄹㄹ>;

	Wholley, David (FNIH) [T] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=afc96d003f9d4a41831a2d77566ed34e-david.wholl <Wholley, David (FNIH) [T]>; Melencio, Cheryl (FNIH) [T] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c543edb17906477e8a65d209f589fce1-cheryl.mele <Melencio, Cheryl (FNIH) [T]>; Donis, Ruben (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=af00dcf720cb429f8e2accbe06ee32ff-Donis, Rube <Donis, Ruben (OS/ASPR/BARDA)>; 7 SMTP; d <8>; <9>; q <??>
<b>Type:</b>	OLE.CLASS.{00061055-0000-0000-C000-000000000046}

Please join the USG-WHO MCM Dialogue Call. This will be a biweekly call on Fridays from 8 to 9 am ET/ 1400- 1500 Geneva.

We will share the final agenda and the WebEx or Zoom information.

If you have any questions, please contact [Arnela.Lopez@hhs.gov](mailto:Arnela.Lopez@hhs.gov) and [Ana.Ayala@hhs.gov](mailto:Ana.Ayala@hhs.gov).

Larry Kerr, PhD  
 Director  
 Office of Pandemic and Emerging Threats  
 Office of Global Affairs  
 U.S. Department of Health and Human Services

<b>Recipient:</b>	Ella Nudell (b)(6) georgetown.edu>; 塏□滓塏塏 〓魔稠卅伯漆塏塏 〓魔禳禮乂卉剔哟噉[則問□校甜毓輻⑤匱跡叫□乃劍齡偉華呖□乃崢蔭臚 □穀慨偶閱纂匱掖掖垓□謁輓□塘割稍剗E 맵□ㄱ越A号□ <Lawrence.Kerr.OS>; Collin.Weinberger.OS sip:collin.weinberger@hhs.gov <Weinberger, Collin (OS/OGA)>; Robin.Moudy.OS sip:robin.moudy@hhs.gov <Moudy, Robin (OS/OGA)>; Ruvani.Chandrasekera.OS sip:ruvani.chandrasekera@hhs.gov <Chandrasekera, Ruvani (OS/OGA)>; /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2d976148be6c4ea5a25eebf0fd101809-Ferrey, Set /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9df94b81b7f549e08c44a157bd583f5d-Aasen, Adam; □端□臬玆鄉□ᄡ EX; EX; EX; EX; SMTP; SmithST1@state.gov <Smith, Steven T (Geneva)>; 'SmithSR1@state.gov' d <SmithSR1@state.gov>; d; d; d; sip:gary.disbrow@hhs.gov d;
-------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

sip:christopher.houchens@hhs.gov </o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=7ac94a574bd04528b7c91bbd61893975-Houchens, C>;  
 SMTP;  
 SMTP;  
 SMTP;  
 SMTP;  
 SMTP;  
 EX;  
 EX;  
 EX;  
 ??;  
 Cohn, Amanda (CDC/DDID/NCIRD/OD) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=592292f16e754034a268cecb6e2c3d29-Cohn, Amand  
 <anc0@cdc.gov>;  
 Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative  
 Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=62643d5586b14f1798171ce903c12ea4-Montgomery,  
 <ztq9@cdc.gov>;  
 Brooks, John T. (CDC/DDID/NCHHSTP/DHPSE) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=1e50fbf05c64442fb27c1dd6897ea0a6-Brooks, Joh  
 <zud4@cdc.gov>;  
 맵□ㄹㄹㄹㄹㄹ /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=f3e2b23223bc4a1abecf698a4122f6c3-michael.mai;  
 matthew.j.hepburn.civ@mail.mil <맵□ㄹㄹㄹㄹㄹ>;  
 Anthony.Mcqueen 맵□ㄹㄹㄹㄹㄹ;  
 'sadam@fnihi.org';  
 Lane, Cliff (NIH/NIAID) [E];  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=11a174ee688e426392d98ba9cd5e1945-cliff.lane. Gruber,  
 Marion (FDA/CBER);  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub Krause,  
 Philip (FDA/CBER);  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau Thomas,  
 Ashley (FDA/CDER);  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=6bcf9a5e75bc42dea48e4009c5342397-ashley.thom  
 'borgesa@who.int';  
 ?? <'borgesa@who.int'>;  
 Bugin, Kevin (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=55c4e5e4038442ff8866f40f603e52ce-kevin.bugin <Bugin,  
 Kevin (FDA/CDER)>;  
 Cho, David S (CBER) (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=d79853f418ac488c9cd10b70d1e2b0f1-david.cho.f <Cho, David  
 S (CBER)>;  
 Sizemore, Christine (NIH/FIC) [E] <맵□ㄹㄹㄹㄹㄹ>;  
 Wholley, David (FNIH) [T] /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=afc96d003f9d4a41831a2d77566ed34e-david.wholl <Wholley,  
 David (FNIH) [T]>;  
 Melencio, Cheryl (FNIH) [T] /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=c543edb17906477e8a65d209f589fce1-cheryl.mele <Melencio,  
 Cheryl (FNIH) [T]>;  
 Donis, Ruben (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=af00dcf720cb429f8e2accbe06ee32ff-Donis, Rube <Donis,  
 Ruben (OS/ASPR/BARDA)>;  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=623cb123c2324236b1db6fb9153e0bbf-Blatner, Gr Ayala, Ana  
 (OS/OGA);  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=80a408be55b14221a42c2b91002d6bf7-Ayala, Ana Tracy  
 Carson;  
 /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=33c7d84fb82a48eeba8f4e0be680df60-TracyCarson 'NANNEI,  
 Claudia';



```
'MCLIESH, Wendy Maree';
첼垂꺤꺤꺤꺤 Fernandez, Jose (OS/OGA);
嗽꺤꺤꺤꺤꺤꺤 Burr, Mara (HHS/OS/OGA);
뵡꺤꺤꺤꺤꺤꺤꺤 EX;
/o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=b229d23be0e24e03a3fd8244c450fb6b-Bleimund, E EX;
7 SMTP;
d <8>;
<9>;
q <??>;
<??>
```

Kerr, Lawrence (HHS/OS/OGA) /O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE <Lawrence.Kerr@hhs.gov>;  
/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=eac7af7ae9754d4290d7aa8cdb537078-Rosenstein Messonnier, Nancy (CDC/DDID/NCIRD/OD) <nar5@cdc.gov>;  
Collin.Weinberger@hhs.gov 메<Collin.Weinberger.OS>;  
Robin.Moudy@hhs.gov 메<Robin.Moudy.OS>;  
Ruvani.Chandrasekera@hhs.gov 메<Ruvani.Chandrasekera.OS>;  
/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2d976148be6c4ea5a25eebf0fd101809-Ferrey, Set 메<>  
<>澤坡勒 夂薊穉卬伯添垠勒 夂薊禮豐义并剔哟噤[則問□校甜毓輕④廩跡叫□乃劍鈴偉羣呖□乃劍棲  
玟參簞埭劼桂季璽薈稔誕 口+口補割尢蔡T>;  
/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9df94b81b7f549e08c44a157bd583f5d-Aasen, Adam Aasen,  
Adam (HHS/OS/OGA) <Adam.Aasen@hhs.gov>;  
垠□澤坡勒 夂薊穉卬伯添垠勒 夂薊禮豐义并剔哟噤[則問□校甜毓輕④廩跡叫□乃劍鈴偉羣呖□乃學 丄 嬾  
匣佻納仔筠纂 丄 筧〰垠 鈺□兵甜到 丄 N Snyder, Anne (HHS/OS/OGA) <Anne.Berlow.os>;  
垠□澤坡勒 夂薊穉卬伯添垠勒 夂薊禮豐义并剔哟噤[則問□校甜毓輕④廩跡叫□乃劍鈴偉羣呖□乃瞞縫恣  
脹汽載在塊格坐腎腓 丄 纂 〰 魴体 〰 魁桂 N Olson, Leandra (HHS/OS/OGA) <Leandra.Olson>;  
垠□澤坡勒 夂薊穉卬伯添垠勒 夂薊禮豐义并剔哟噤[則問□校甜毓輕④廩跡叫□乃劍鈴偉羣呖□乃綵計匱  
口 丄 悽促侶牀粹稜汽純裡汽 丄 穿霽泰卓薩 R Schmeissner, Peter (HHS/OGA) <Peter.Schmeissner.os>;

**To:** EX Natalie.Lahood

<垠□滓戥勳┐莧稭卅伯涂戥勳┐莧篴禮义并剔咄咄[則問□校甜觚輒④廙卧叫□乃劍鈴倬萼呖□乃臚臚  
蘭<sup>レ</sup>衰<sup>レ</sup>汽簞簞蓄埃⑤(仕)廙套□耦佈臚稊T>;  
LaHood, Natalie (OS/OGA) </o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=d7d5e131fd394ab3b1b0eb6f232851f1-Lahood, Nat>;  
耕愕区黎髡勢隆咄咄□佇V <SMTP>;

EX MarksP.fda

<煨□淬煨動↗蒐稭□伯涂煨動↗蒐煨糲又弄剔咄咄[則問□校甜竈輒⑤區臥叫□乃剗鈴偉華呖□乃腦店  
驢快得XX倣繆季筭筭↗↗煨坐□蒞蒞□挺館S>;

EX Janet.Woodcock.fda

<煨□滓煨動↗菴稭□伯涂煨動↗菴擅體又并剔咄咄[則問□校甜觚輒②廢臥叫□乃劍鈴偉摹呖□乃卣慷  
 區授↗慷多篠曇曆↗爇燬燬賢<sup>ヒ</sup>□耗齒□佗體C>;

EX Mark.Abdoo.fda

<煨□滓煨動↗麓稭斤伯添煨動↗麓擅體义弁剔咄嗽[則問□校甜觚輒②匱臥叫□乃剝鈴偉孽呖□乃騰軼  
ㄅ<sup>6</sup>博筮簞得僂怎愆蹇謫仟ㄅ<sup>7</sup>驪□挺飽扶腰住。>;

/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=0fd5845defda4dc0bb45f8fac629cf09-Disbrow, Gary  
Gary.Disbrow.OS <Gary.Disbrow@hhs.gov>;

EX Houchens, Christopher (OS/ASPR/BARDA) </o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7ac94a574bd04528b7c91bbd61893975-Houchens, C>;

EX Robert.Johnson

<煨□滓煨動∟菴稭卞伯添煨動∟菴擅體义并剔咄噉[則問□校甜輻輳⊗廢臥□乃劍鈴偉摹呖□乃氣匿  
藉憐伏<sub>レ</sub>伏/答箴侶稭稭⑤侶蘭□彼么体<sub>レ</sub>刪O>;

```
<'swaminathans@who.int'>:
```

```
<'ryanm@who.int'>;
```





Larry Kerr, PhD  
Director  
Office of Pandemic and Emerging Threats  
Office of Global Affairs  
U.S. Department of Health and Human Services

Director

Office of Global Affairs

U.S. Department of Health and Human Services

Kerr, Lawrence (HHS/OS/OGA) /o=ExchangeLabs/ou=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/cn=RECIPIENTS/cn=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRENCE <Lawrence.Kerr@hhs.gov>;  
/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=eac7af7ae9754d4290d7aa8cdb537078-Rosenstein Messonnier, Nancy (CDC/DDID/NCIRD/OD) <nar5@cdc.gov>;  
Collin.Weinberger@hhs.gov 𐄂𐄃𐄅𐄆𐄇𐄈𐄉𐄊𐄋𐄌𐄍𐄎𐄏𐄐𐄑𐄒𐄓𐄔𐄕𐄖𐄗𐄘𐄙𐄚𐄛𐄜𐄝𐄞𐄟𐄠𐄡𐄢𐄣𐄤𐄥𐄦𐄧𐄨𐄩𐄪𐄫𐄬𐄭𐄮𐄯𐄰𐄱𐄲𐄳𐄴𐄵𐄶𐄷𐄸𐄹𐄺𐄻𐄼𐄽𐄾𐄿𐅀𐅁𐅂𐅃𐅄𐅅𐅆𐅇𐅈𐅉𐅊𐅋𐅌𐅍𐅎𐅏𐅐𐅑𐅒𐅓𐅔𐅕𐅖𐅗𐅘𐅙𐅚𐅛𐅜𐅝𐅞𐅟𐅠𐅡𐅢𐅣𐅤𐅥𐅦𐅧𐅨𐅩𐅪𐅫𐅬𐅭𐅮𐅯𐅰𐅱𐅲𐅳𐅴𐅵𐅶𐅷𐅸𐅹𐅺𐅻𐅼𐅽𐅾𐅿𐆀𐆁𐆂𐆃𐆄𐆅𐆆𐆇𐆈𐆉𐆊𐆋𐆌𐆍𐆎𐆏𐆐𐆑𐆒𐆓𐆔𐆕𐆖𐆗𐆘𐆙𐆚𐆛𐆜𐆝𐆞𐆟𐆠𐆡𐆢𐆣𐆤𐆥𐆦𐆧𐆨𐆩𐆪𐆫𐆬𐆭𐆮𐆯𐆰𐆱𐆲𐆳𐆴𐆵𐆶𐆷𐆸𐆹𐆺𐆻𐆼𐆽𐆾𐆿𐇀𐇁𐇂𐇃𐇄𐇅𐇆𐇇𐇈𐇉𐇊𐇋𐇌𐇍𐇎𐇏𐇐𐇑𐇒𐇓𐇔𐇕𐇖𐇗𐇘𐇙𐇚𐇛𐇜𐇝𐇞𐇟𐇠𐇡𐇢𐇣𐇤𐇥𐇦𐇧𐇨𐇩𐇪𐇫𐇬𐇭𐇮𐇯𐇰𐇱𐇲𐇳𐇴𐇵𐇶𐇷𐇸𐇹𐇺𐇻𐇼𐇽𐇾𐇿𐈀𐈁𐈂𐈃𐈄𐈅𐈆𐈇𐈈𐈉𐈊𐈋𐈌𐈍𐈎𐈏𐈐𐈑𐈒𐈓𐈔𐈕𐈖𐈗𐈘𐈙𐈚𐈛𐈜𐈝𐈞𐈟𐈠𐈡𐈢𐈣𐈤𐈥𐈦𐈧𐈨𐈩𐈪𐈫𐈬𐈭𐈮𐈯𐈰𐈱𐈲𐈳𐈴𐈵𐈶𐈷𐈸𐈹𐈺𐈻𐈼𐈽𐈾𐈿𐉀𐉁𐉂𐉃𐉄𐉅𐉆𐉇𐉈𐉉𐉊𐉋𐉌𐉍𐉎𐉏𐉐𐉑𐉒𐉓𐉔𐉕𐉖𐉗𐉘𐉙𐉚𐉛𐉜𐉝𐉞𐉟𐉠𐉡𐉢𐉣𐉤𐉥𐉦𐉧𐉨𐉩𐉪𐉫𐉬𐉭𐉮𐉯𐉰𐉱𐉲𐉳𐉴𐉵𐉶𐉷𐉸𐉹𐉺𐉻𐉼𐉽𐉾𐉿𐊀𐊁𐊂𐊃𐊄𐊅𐊆𐊇𐊈𐊉𐊊𐊋𐊌𐊍𐊎𐊏𐊐𐊑𐊒𐊓𐊔𐊕𐊖𐊗𐊘𐊙𐊚𐊛𐊜𐊝𐊞𐊟𐊠𐊡𐊢𐊣𐊤𐊥𐊦𐊧𐊨𐊩𐊪𐊫𐊬𐊭𐊮𐊯𐊰𐊱𐊲𐊳𐊴𐊵𐊶𐊷𐊸𐊹𐊺𐊻𐊼𐊽𐊾𐊿𐋀𐋁𐋂𐋃𐋄𐋅𐋆𐋇𐋈𐋉𐋊𐋋𐋌𐋍𐋎𐋏𐋐𐋑𐋒𐋓𐋔𐋕𐋖𐋗𐋘𐋙𐋚𐋛𐋜𐋝𐋞𐋟𐋠𐋡𐋢𐋣𐋤𐋥𐋦𐋧𐋨𐋩𐋪𐋫𐋬𐋭𐋮𐋯𐋰𐋱𐋲𐋳𐋴𐋵𐋶𐋷𐋸𐋹𐋺𐋻𐋼𐋽𐋾𐋿𐌀𐌁𐌂𐌃𐌄𐌅𐌆𐌇𐌈𐌉𐌊𐌋𐌌𐌍𐌎𐌏𐌐𐌑𐌒𐌓𐌔𐌕𐌖𐌗𐌘𐌙𐌚𐌛𐌜𐌝𐌞𐌟𐌠𐌡𐌢𐌣𐌤𐌥𐌦𐌧𐌨𐌩𐌪𐌫𐌬𐌭𐌮𐌯𐌰𐌱𐌲𐌳𐌴𐌵𐌶𐌷𐌸𐌹𐌺𐌻𐌼𐌽𐌾𐌿𐍀𐍁𐍂𐍃𐍄𐍅𐍆𐍇𐍈𐍉𐍊𐍋𐍌𐍍𐍎𐍏𐍐𐍑𐍒𐍓𐍔𐍕𐍖𐍗𐍘𐍙𐍚𐍛𐍜𐍝𐍞𐍟𐍠𐍡𐍢𐍣𐍤𐍥𐍦𐍧𐍨𐍩𐍪𐍫𐍬𐍭𐍮𐍯𐍰𐍱𐍲𐍳𐍴𐍵𐍶𐍷𐍸𐍹𐍺𐍻𐍼𐍆𐍇𐍈𐍉𐍊𐍋𐍌𐍍𐍎𐍏𐍐𐍑𐍒𐍓𐍔𐍕𐍖𐍗𐍘𐍙𐍚𐍛𐍜𐍝𐍞𐍟𐍠𐍡𐍢𐍣𐍤𐍥𐍦𐍧𐍨𐍩𐍪𐍫𐍬𐍭𐍮𐍯𐍰𐍱𐍲𐍳𐍴𐍵𐍶𐍷𐍸𐍹𐍺𐍻𐍼𐍽𐍾𐍿𐎀𐎁𐎂𐎃𐎄𐎅𐎆𐎇𐎈𐎉𐎊𐎋𐎌𐎍𐎎𐎏𐎐𐎑𐎒𐎓𐎔𐎕𐎖𐎗𐎘𐎙𐎚𐎛𐎜𐎝𐎞𐎟𐎠𐎡𐎢𐎣𐎤𐎥𐎦𐎧𐎨𐎩𐎪𐎫𐎬𐎭𐎮𐎯𐎰𐎱𐎲𐎳𐎴𐎵𐎶𐎷𐎸𐎹𐎺𐎻𐎼𐎽𐎾𐎿�0�1�2�3�4�5�6�7�8�9�A�B�C�D�E�F�G�H�I�J�K�L�M�N�O�P�Q�R�S�T�U�V�W�X�Y�Z�[�]�^�\_�`�~�!�"�\$%&'()\*+,-./:;<=>?@AB CDEFGHIJKLMNOPQRSTUVWXYZ;  
Robin.Moudy@hhs.gov 𐄂𐄃𐄅𐄆𐄇𐄈𐄉𐄊𐄋𐄌𐄍𐄎𐄏𐄐𐄑𐄒𐄓𐄔𐄕𐄖𐄗𐄘𐄙𐄚𐄛𐄜𐄝𐄞𐄟𐄠𐄡𐄢𐄣𐄤𐄥𐄦𐄧𐄨𐄩𐄪𐄫𐄬𐄭𐄮𐄯𐄰𐄱𐄲𐄳𐄴𐄵𐄶𐄷𐄸𐄹𐄺𐄻𐄼𐄽𐄾𐄿𐅀𐅁𐅂𐅃𐅄𐅅𐅆𐅇𐅈𐅉𐅊𐅋𐅌𐅍𐅎𐅏𐅐𐅑𐅒𐅓𐅔𐅕𐅖𐅗𐅘𐅙𐅚𐅛𐅜𐅝𐅞𐅟𐅠𐅡𐅢𐅣𐅤𐅥𐅦𐅧𐅨𐅩𐅪𐅫𐅬𐅭𐅮𐅯𐅰𐅱𐅲𐅳𐅴𐅵𐅶𐅷𐅸𐅹𐅺𐅻𐅼𐅽𐅾𐅿𐆀𐆁𐆂𐆃𐆄𐆅𐆆𐆇𐆈𐆉𐆊𐆋𐆌𐆍𐆎𐆏𐆐𐆑𐆒𐆓𐆔𐆕𐆖𐆗𐆘𐆙𐆚𐆛𐆜𐆝𐆞𐆟𐆠𐆡𐆢𐆣𐆤𐆥𐆦𐆧𐆨

<(FYDIBOHF23SPDLT)/cn=Recipients/cn=7ac94a574bd04528b7c91bbdb1893975-Houchens, C>;  
EX Robert.Johnson  
<垩口滓垩勒 丂麓稠刊伯添垩勒 丂麓擅禮义卉剔哟噉[則問□校甜觚輒⊗匱臥叫□乃劍鈴偉萼呖□乃气匯  
菴憐伙ゝ伏 / 答垩吗穉稠⊕偶蘭□彼么体w刪O>;  
<'swaminathans@who.int'>;  
<'ryanm@who.int'>;  
<'simonsons@who.int'>;  
<'simaom@who.int'>;  
<'aylawardb@who.int'>;  
垩口滓垩勒 丂麓稠刊伯添垩勒 丂麓擅禮义卉剔哟噉[則問□校甜觚輒⊗匱臥叫□乃劍鈴偉萼呖□乃佻柏煩  
蔭ゝ蓋伙筭纂然絢蔭ゝゑ?劬□□藤績 丂w刪I <EX>;  
垩口滓垩勒 丂麓稠刊伯添垩勒 丂麓擅禮义卉剔哟噉[則問□校甜觚輒⊗匱臥叫□乃劍鈴偉萼呖□乃裁??  
簪ゝ母伙柄箱季棧蘭⊕孃ゝく □奈莖薜割I <EX>;  
</o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=592292f16e754034a268cecb6e2c3d29-Cohn, Amand  
<anc0@cdc.gov>;  
垩口滓垩勒 丂麓稠刊伯添垩勒 丂麓擅禮义卉剔哟噉[則問□校甜觚輒⊗匱臥叫□乃劍鈴偉萼呖□乃栽坑ゝ  
厓帛答多从恰々□薩廿纏裯挂□位呖佇蓆寥, <EX>;  
垩口滓垩勒 丂麓稠刊伯添垩勒 丂麓擅禮义卉剔哟噉[則問□校甜觚輒⊗匱臥叫□乃劍鈴偉萼呖□乃以屨褫  
襠巫伾伙(爲篤嫵田騰帆耀桂秭□剂住古伎H <EX>;  
垩口滓垩勒 丂麓稠刊伯添垩勒 丂麓擅禮义卉剔哟噉[則問□校甜觚輒⊗匱臥叫□乃劍鈴偉萼呖□乃祝蒸籟  
ゝ術竈箇□□籥鈴坵圻仝閑襍紉□鑿勒葉□挺I <EX>;  
秣愕蹇响矜垩躡蠶僅吼兵繻噉縹緞□盤L <SMTP>;  
垩口滓垩勒 丂麓稠刊伯添垩勒 丂麓擅禮义卉剔哟噉[則問□校甜觚輒⊗匱臥叫□乃劍鈴偉萼呖□乃栖田帆  
得蓋腫□□恒脾圻恬縫襌紉□穀唅縷〰N <EX>;  
</o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=c800c9096ab34f7da2dfded90f2e71ba-Michael.Smi>;  
SMTP 秣愕区脊燧棚縹□靦G <sadam@fnih.org>;  
</o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=11a174ee688e426392d98ba9cd5e1945-cliff.lane. clane.NIH  
<CLANE@niaid.nih.gov>;  
</o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=80a408be55b14221a42c2b91002d6bf7-Ayala, Ana Ayala, Ana  
(OS/OGA) <Ana.Ayala@hhs.gov>;  
</o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=33c7d84fb82a48eeba8f4e0be680df60-TracyCarson Tracy  
Carson <CarsonTL@state.gov>;  
nanneic@who.int 'NANNEI, Claudia' <nanneic@who.int>;  
秣愕蹇鉄華衛瞪瑩□义T 맽□ㄸ越λ号□ <MCLIESH, Wendy Maree>;  
EX </o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=21d0317abb9fd1bb2779f8b95826543-Fernandez,>;  
Bleimund, Emily (OS/OGA) <sip:emily.bleimund@hhs.gov>;  
bruce.tromberg@nih.gov 맽□ㄸ越λ号□ <trombergbj.NIH>;  
</o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=67117ba1e0034e4e9f3d50c794331e1f-kathleen.do Dooling,  
Kathleen L. (CDC/DDID/NCIRD/DVD) <vic9@cdc.gov>;  
</o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub Gruber,  
Marion (FDA/CBER) <Marion.Gruber@fda.hhs.gov>;  
</o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau ??  
<KRAUSE.fda>;  
</o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=6bcf9a5e75bc42dea48e4009c5342397-ashley.thom <Thomas,  
Ashley (FDA/CDER)>;  
<'borgesa@who.int'>;  
垩口滓垩勒 丂麓稠刊伯添垩勒 丂麓擅禮义卉剔哟噉[則問□校甜觚輒⊗匱臥叫□乃劍鈴偉萼呖□乃亩編藪  
蘭ゝ令伙授毓至福ゝ垩ゝ屨縹□蒔鎖□吼縹N <EX>;  
</o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=d79853f418ac488c9cd10b70d1e2b0f1-david.cho.f <Cho, David  
S (CBER) (FDA/CBER)>;

	<p>2 SMTP;  /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=afc96d003f9d4a41831a2d77566ed34e-david.wholl &lt;Wholley, David (FNIH) [T]&gt;;  ?? &lt;EX&gt;;  &lt;5&gt;;  &lt;6&gt;;  Blatner, Gretta (OS/ASPR/BARDA) &lt;/o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=623cb123c2324236b1db6fb9153e0bbf-Blatner, Gr&gt;;  &lt;□き罇穉躑詞鐵咕&gt;;  Ella Nudell 9 &lt;d&gt;;  Lamourelle, Gabrielle (HHS/OS/OGA) &lt;sip:gabrielle.lamourelle@hhs.gov&gt;</p>
To:	<p>'swaminathans@who.int' &lt;swaminathans@who.int&gt;;  塢□滓塏勳 丩薊稠卂伯添塏勳 丩薊漣薊义 丩剔哟噉[則問□校甜觚輒⊗廐呖斗□乃劓齡偉羣呖□乃峯蔭脯  □穀慨偶硯纂罔掖掖垓□闊輶□塘割稠割E 맵□越Λ号□ &lt;Lawrence.Kerr.OS&gt;;  Collin.Weinberger.OS sip:collin.weinberger@hhs.gov &lt;Weinberger, Collin (OS/OGA)&gt;;  Robin.Moudy.OS sip:robin.moudy@hhs.gov &lt;Moudy, Robin (OS/OGA)&gt;;  Ruvani.Chandrasekera.OS sip:ruvani.chandrasekera@hhs.gov &lt;Chandrasekera, Ruvani (OS/OGA)&gt;;  &lt;/o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=2d976148be6c4ea5a25eebf0fd101809-Ferrey, Set&gt;;  □端□龔發鄉□η /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=7410775a42a540bbb71438b93c600bc8-Snyder, Ann;  /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=dac295d944ee4b67b464d7d5041bb916-Olson, Lean &lt;Olson, Leandra (HHS/OS/OGA)&gt;;  /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=ca385a113d96474289fae94d7ef94614-Schmeissner  &lt;Schmeissner, Peter (HHS/OGA)&gt;;  /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=d7d5e131fd394ab3b1b0eb6f232851f1-Lahood, Nat &lt;LaHood, Natalie (OS/OGA)&gt;;  ?? &lt;SMTP&gt;;  Smith, Steven T (Geneva) Smith, Steven T (Geneva) &lt;耕愕区鑿夥屹聃吃哟□佇V&gt;;  &lt;SmithSR1@state.gov&gt;;  Peter.Marks@fda.hhs.gov &lt;Marks, Peter (FDA/CBER)&gt;;  Janet.Woodcock@fda.hhs.gov &lt;Woodcock, Janet (FDA/CDER)&gt;;  Mark.Abdo@fda.hhs.gov &lt;Abdo, Mark (FDA/OC)&gt;;  Gary.Disbrow.OS sip:gary.disbrow@hhs.gov &lt;Disbrow, Gary (OS/ASPR/BARDA)&gt;;  Christopher.Houchens@hhs.gov &lt;/o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=7ac94a574bd04528b7c91bbd61893975-Houchens, C&gt;;  sip:robert.johnson@hhs.gov ;  'ryanm@who.int' &lt;ryanm@who.int&gt;;  'simonsons@who.int' &lt;simonsons@who.int&gt;;  'simaom@who.int' &lt;, simaom@who.int&gt;;  'aylwardb@who.int' &lt;aylwardb@who.int&gt;;  Messonnier, Nancy (CDC/DDID/NCIRD/OD) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=eac7af7ae9754d4290d7aa8cdb537078-Rosenstein  &lt;nar5@cdc.gov&gt;;  Helfand, Rita (CDC/DDID/NCEZID/OD) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=28a17ce03de24abbb3e9c9e1363c4017-Helfand, Ri  &lt;rzh7@cdc.gov&gt;;  Hyde, Terri (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=653839b51d4442a7b5ad95e605761104-Hyde, Terri  &lt;tkh4@cdc.gov&gt;;  ?? /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=592292f16e754034a268cecb6e2c3d29-Cohn, Amand  &lt;anc0@cdc.gov&gt;;  Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative  Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=62643d5586b14f1798171ce903c12ea4-Montgomery,  &lt;ztd9@cdc.gov&gt;;  Brooks, John T. (CDC/DDID/NCHSTP/DHPSE) /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=1e50fbf05c64442fb27c1dd6897ea0a6-Brooks, Joh  &lt;zud4@cdc.gov&gt;;  Mair, Michael (FDA/OC) /o=ExchangeLabs/ou=Exchange Administrative Group</p>

	<p>(FYDIBOHF23SPDLT)/cn=Recipients/cn=f3e2b23223bc4a1abecf698a4122f6c3-michael.mai &lt;Michael.Mair@fda.hhs.gov&gt;; 'matthew.j.hepburn.civ@mail.mil' &lt;matthew.j.hepburn.civ@mail.mil&gt;; Mcqueen, COL Anthony (HHS/IOS) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ac168b9de8d04b0197d9839acff236c0-Mcqueen, An &lt;Anthony.Mcqueen@hhs.gov&gt;; Smith, Michael (MIL) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c800c9096ab34f7da2dfded90f2e71ba-Michael.Smi &lt;michael.w.smith93.mil@mail.mil&gt;; 'sadam@fnih.org' &lt;sadam@fnih.org&gt;; Lane, Cliff (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=11a174ee688e426392d98ba9cd5e1945-cliff.lane. &lt;CLANE@niaid.nih.gov&gt;; Ayala, Ana (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=80a408be55b14221a42c2b91002d6bf7-Ayala, Ana &lt;Ana.Ayala@hhs.gov&gt;; Tracy Carson /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=33c7d84fb82a48eeba8f4e0be680df60-TracyCarson &lt;CarsonTL@state.gov&gt;; 'NANNEI, Claudia' &lt;nanneic@who.int&gt;; 'MCLIESH, Wendy Maree' &lt;mclieshw@who.int&gt;; Fernandez, Jose (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=21d0317abb9f4d1bb2779f8b95826543-Fernandez, &lt;Jose.Fernandez@hhs.gov&gt;; Burr, Mara (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1789c53bbdbf412b9b31cc59cbd4bda2-Burr, Mara &lt;Mara.Burr@hhs.gov&gt;; Bleimund, Emily (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b229d23be0e24e03a3fd8244c450fb6b-Bleimund, E &lt;Emily.Bleimund@hhs.gov&gt;; Tromberg, Bruce (NIH/NIBIB) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8296eab89a64486a841aa06f835d77e0-bruce.tromb &lt;bruce.tromberg@nih.gov&gt;; Scharf, Sarah (NIH/OD) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d7be58c4b45c4e978f7614d7d73425f9-sarah.schar &lt;sarah.scharf@nih.gov&gt;</p>
cc:	<p>Gruber, Marion (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub &lt;Marion.Gruber@fda.hhs.gov&gt;; Krause, Philip (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau &lt;Philip.Krause@fda.hhs.gov&gt;; Thomas, Ashley (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6bcf9a5e75bc42dea48e4009c5342397-ashley.thom &lt;Ashley.Thomas@fda.hhs.gov&gt;; 'borgesa@who.int' &lt;borgesa@who.int&gt;; Bugin, Kevin (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=55c4e5e4038442ff8866f40f603e52ce-kevin.bugin &lt;Kevin.Bugin@fda.hhs.gov&gt;; Cho, David S (CBER) (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d79853f418ac488c9cd10b70d1e2b0f1-david.cho.f &lt;David.Cho@fda.hhs.gov&gt;; Sizemore, Christine (NIH/FIC) [E] &lt;christine.sizemore@nih.gov&gt;; Wholley, David (FNIH) [T] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=afc96d003f9d4a41831a2d77566ed34e-david.wholl &lt;dwholley@fnih.org&gt;; Melencio, Cheryl (FNIH) [T] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c543edb17906477e8a65d209f589fce1-cheryl.mele &lt;cmelencio@fnih.org&gt;; Donis, Ruben (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=af00dcf720cb429f8e2accbe06ee32ff-Donis, Rube &lt;Ruben.Donis@hhs.gov&gt;; Blatner, Gretta (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=623cb123c2324236b1db6fb9153e0bbf-Blatner, Gr &lt;Gretta.Blatner@hhs.gov&gt;; Heemskerk, Jill (NIH/NIBIB) [E] &lt;jill.heemskerk@nih.gov&gt;;</p>





Mcqueen, COL Anthony (HHS/IOS) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ac168b9de8d04b0197d9839acff236c0-Mcqueen, An <Anthony.Mcqueen@hhs.gov>;

Smith, Michael (MIL) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c800c9096ab34f7da2dfded90f2e71ba-Michael.Smi <michael.w.smith93.mil@mail.mil>;

'sadam@fnih.org' <sadam@fnih.org>;

Lane, Cliff (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=11a174ee688e426392d98ba9cd5e1945-cliff.lane. <CLANE@niaid.nih.gov>;

Gruber, Marion (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub <Marion.Gruber@fda.hhs.gov>;

Krause, Philip (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau <Philip.Krause@fda.hhs.gov>;

Thomas, Ashley (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6bcf9a5e75bc42dea48e4009c5342397-ashley.thom <Ashley.Thomas@fda.hhs.gov>;

'borgesa@who.int' <borgesa@who.int>;

Bugin, Kevin (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=55c4e5e4038442ff8866f40f603e52ce-kevin.bugin <Kevin.Bugin@fda.hhs.gov>;

Cho, David S (CBER) (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d79853f418ac488c9cd10b70d1e2b0f1-david.cho.f <David.Cho@fda.hhs.gov>;

Sizemore, Christine (NIH/FIC) [E] <christine.sizemore@nih.gov>;

Wholley, David (FNIH) [T] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=afc96d003f9d4a41831a2d77566ed34e-david.wholl <dwholley@fnih.org>;

Melencio, Cheryl (FNIH) [T] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c543edb17906477e8a65d209f589fce1-cheryl.mele <cmelencio@fnih.org>;

Donis, Ruben (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=af00dcf720cb429f8e2accbe06ee32ff-Donis, Rube <Ruben.Donis@hhs.gov>;

Blatner, Gretta (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=623cb123c2324236b1db6fb9153e0bbf-Blatner, Gr <Gretta.Blatner@hhs.gov>;

Ayala, Ana (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=80a408be55b14221a42c2b91002d6bf7-Ayala, Ana <Ana.Ayala@hhs.gov>;

Tracy Carson /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=33c7d84fb82a48eeba8f4e0be680df60-TracyCarson <CarsonTL@state.gov>;

'NANNEI, Claudia' <nanneic@who.int>;

'MCLIESH, Wendy Maree' <mclieshw@who.int>;

Fernandez, Jose (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=21d0317abb9f4d1bb2779f8b95826543-Fernandez, <Jose.Fernandez@hhs.gov>;

Burr, Mara (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1789c53bbdbf412b9b31cc59cbd4bda2-Burr, Mara <Mara.Burr@hhs.gov>;

Bleimund, Emily (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b229d23be0e24e03a3fd8244c450fb6b-Bleimund, E <Emily.Bleimund@hhs.gov>;

Tromberg, Bruce (NIH/NIBIB) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8296eab89a64486a841aa06f835d77e0-bruce.tromb <bruce.tromberg@nih.gov>;

Heemskerk, Jill (NIH/NIBIB) [E] <jill.heemskerk@nih.gov>;

Ella Nudell (b)(6) georgetown.edu>;

Lamourelle, Gabrielle (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2cf3cb1a840847b3af0ea0c4d0d137c1-Lamourelle, <Gabrielle.Lamourelle@hhs.gov>;

Yarielka Arrieta (b)(6) gmail.com>;

Scharf, Sarah (NIH/OD) [E] /o=ExchangeLabs/ou=Exchange Administrative Group

(FYDIBOHF23SPDLT)/cn=Recipients/cn=d7be58c4b45c4e978f7614d7d73425f9-sarah.schar  
<sarah.scharf@nih.gov>

<b>From:</b>	Kerr, Lawrence (HHS/OS/OGA) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE>
<b>SentVia:</b>	Lopez, Arnela (OS/OGA) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=505A8FE681584CA49E73F219976891AA-LOPEZ, ARNE>
<b>To:</b>	<p>Kerr, Lawrence (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE &lt;Lawrence.Kerr@hhs.gov&gt;;</p> <p>Weinberger, Collin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=641554fc7843407585827af5898d9c26-Weinberger, &lt;Collin.Weinberger@hhs.gov&gt;;</p> <p>Moudy, Robin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d421d3e0f6474bc3857583cfc5870d69-Moudy, Robi &lt;Robin.Moudy@hhs.gov&gt;;</p> <p>Chandrasekera, Ruvani (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=678d9ff8e02d477ab5d0516bd3659a34-Chandraseke &lt;Ruvani.Chandrasekera@hhs.gov&gt;;</p> <p>Ferrey, Seth (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2d976148be6c4ea5a25eeb0fd101809-Ferrey, Set &lt;Seth.Ferrey@hhs.gov&gt;;</p> <p>Aasen, Adam (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9df94b81b7f549e08c44a157bd583f5d-Aasen, Adam &lt;Adam.Aasen@hhs.gov&gt;;</p> <p>Snyder, Anne (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7410775a42a540bbb71438b93c600bc8-Snyder, Ann &lt;Anne.Snyder@hhs.gov&gt;;</p> <p>Olson, Leandra (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dac295d944ee4b67b464d7d5041bb916-Olson, Lean &lt;Leandra.Olson@hhs.gov&gt;;</p> <p>Schmeissner, Peter (HHS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ca385a113d96474289fae94d7ef94614-Schmeissner &lt;Peter.Schmeissner@hhs.gov&gt;;</p> <p>LaHood, Natalie (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d7d5e131fd394ab3b1b0eb6f232851f1-Lahood, Nat &lt;Natalie.Lahood@hhs.gov&gt;;</p> <p>Smith, Steven T (Geneva) &lt;SmithST1@state.gov&gt;;</p> <p>'SmithSR1@state.gov' &lt;SmithSR1@state.gov&gt;;</p> <p>Marks, Peter (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=df56588b970c43c8a9a2b9b31406746c-peter.marks &lt;Peter.Marks@fda.hhs.gov&gt;;</p> <p>Woodcock, Janet (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5f925e9a0f9147b186d40072d474d13d-janet.woodc &lt;Janet.Woodcock@fda.hhs.gov&gt;;</p> <p>Abdoo, Mark (FDA/OC) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d8893b91b3bd49b0978ac6b5d5423cd1-mark.abdoo. &lt;Mark.Abdoo@fda.hhs.gov&gt;;</p> <p>Disbrow, Gary (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0fd5845defda4dc0bb45f8fac629cf09-Disbrow, Ga &lt;Gary.Disbrow@hhs.gov&gt;;</p> <p>Houchens, Christopher (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7ac94a574bd04528b7c91bbd61893975-Houchens, C &lt;Christopher.Houchens@hhs.gov&gt;;</p> <p>Johnson, Robert (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0851e89240324306b78740a4a60745e2-Johnson, Ro &lt;Robert.Johnson@hhs.gov&gt;;</p> <p>'swaminathans@who.int' &lt;swaminathans@who.int&gt;;</p> <p>'ryanm@who.int' &lt;ryanm@who.int&gt;;</p> <p>'simonsons@who.int' &lt;simonsons@who.int&gt;;</p> <p>'simaom@who.int' &lt;simaom@who.int&gt;;</p> <p>'aylwardb@who.int' &lt;aylwardb@who.int&gt;;</p> <p>Messonnier, Nancy (CDC/DDID/NCIRD/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=eac7af7ae9754d4290d7aa8cdb537078-Rosenstein &lt;nar5@cdc.gov&gt;;</p> <p>Helfand, Rita (CDC/DDID/NCEZID/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=28a17ce03de24abbb3e9c9e1363c4017-Helfand, Ri &lt;rh7@cdc.gov&gt;;</p>

Hyde, Terri (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=653839b51d4442a7b5ad95e605761104-Hyde, Terri <tkh4@cdc.gov>;

Cohn, Amanda (CDC/DDID/NCIRD/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=592292f16e754034a268cecb6e2c3d29-Cohn, Amand <anc0@cdc.gov>;

Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=62643d5586b14f1798171ce903c12ea4-Montgomery, <ztq9@cdc.gov>;

Brooks, John T. (CDC/DDID/NCHHSTP/DHPSE) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1e50fbf05c64442fb27c1dd6897ea0a6-Brooks, Joh <zud4@cdc.gov>;

Mair, Michael (FDA/OC) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f3e2b23223bc4a1abecf698a4122f6c3-michael.mai <Michael.Mair@fda.hhs.gov>;

'matthew.j.hepburn.civ@mail.mil' <matthew.j.hepburn.civ@mail.mil>;

Mcqueen, COL Anthony (HHS/IOS) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ac168b9de8d04b0197d9839acff236c0-Mcqueen, An <Anthony.Mcqueen@hhs.gov>;

Smith, Michael (MIL) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c800c9096ab34f7da2dfd90f2e71ba-Michael.Smi <michael.w.smith93.mil@mail.mil>;

'sadam@fnih.org' <sadam@fnih.org>;

Lane, Cliff (NIH/NIAD) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=11a174ee688e426392d98ba9cd5e1945-cliff.lane. <CLANE@niaid.nih.gov>;

Ayala, Ana (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=80a408be55b14221a42c2b91002d6bf7-Ayala, Ana <Ana.Ayala@hhs.gov>;

Tracy Carson /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=33c7d84fb82a48eeba8f4e0be680df60-TracyCarson <CarsonTL@state.gov>;

'NANNEI, Claudia' <nanneic@who.int>;

'MCLIESH, Wendy Maree' <mclieshw@who.int>;

Fernandez, Jose (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=21d0317abb9f4d1bb2779f8b95826543-Fernandez, <Jose.Fernandez@hhs.gov>;

Burr, Mara (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1789c53bbdbf412b9b31cc59cbd4bda2-Burr, Mara <Mara.Burr@hhs.gov>;

Bleimund, Emily (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b229d23be0e24e03a3fd8244c450fb6b-Bleimund, E <Emily.Bleimund@hhs.gov>;

Tromberg, Bruce (NIH/NIBIB) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8296eab89a64486a841aa06f835d77e0-bruce.tromb <bruce.tromberg@nih.gov>;

Scharf, Sarah (NIH/OD) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d7be58c4b45c4e978f7614d7d73425f9-sarah.schar <sarah.scharf@nih.gov>

CC:

Gruber, Marion (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub <Marion.Gruber@fda.hhs.gov>;

Krause, Philip (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau <Philip.Krause@fda.hhs.gov>;

Thomas, Ashley (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6bcf9a5e75bc42dea48e4009c5342397-ashley.thom <Ashley.Thomas@fda.hhs.gov>;

'borgesa@who.int' <borgesa@who.int>;

Bugin, Kevin (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=55c4e5e4038442ff8866f40f603e52ce-kevin.bugin <Kevin.Bugin@fda.hhs.gov>;

Cho, David S (CBER) (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d79853f418ac488c9cd10b70d1e2b0f1-david.cho.f <David.Cho@fda.hhs.gov>;

Sizemore, Christine (NIH/FIC) [E] <christine.sizemore@nih.gov>;

	<p>Wholley, David (FNIH) [T] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=afc96d003f9d4a41831a2d77566ed34e-david.wholl &lt;dwholley@fnih.org&gt;;</p> <p>Melencio, Cheryl (FNIH) [T] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c543edb17906477e8a65d209f589fce1-cheryl.mele &lt;cmelencio@fnih.org&gt;;</p> <p>Donis, Ruben (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=af00dcf720cb429f8e2accbe06ee32ff-Donis, Rube &lt;Ruben.Donis@hhs.gov&gt;;</p> <p>Blatner, Gretta (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=623cb123c2324236b1db6fb9153e0bbf-Blatner, Gr &lt;Gretta.Blatner@hhs.gov&gt;;</p> <p>Heemskerk, Jill (NIH/NIBIB) [E] &lt;jill.heemskerk@nih.gov&gt;;</p> <p>Ella Nudell (b)(6) georgetown.edu&gt;;</p> <p>Lamourelle, Gabrielle (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2cf3cb1a840847b3af0ea0c4d0d137c1-Lamourelle, &lt;Gabrielle.Lamourelle@hhs.gov&gt;;</p> <p>Yarielka Arrieta (b)(6) @gmail.com&gt;;</p> <p>Hinton, Denise (FDA/OC) &lt;Denise.Hinton@fda.hhs.gov&gt;</p>
<b>Subject:</b>	USG-WHO MCM Dialogue Call
<b>Date:</b>	2020/05/20 15:21:32
<b>Start Date:</b>	2020/05/29 08:00:00
<b>End Date:</b>	2020/05/29 09:00:00
<b>Priority:</b>	Normal
<b>Type:</b>	Appointment
<b>Location:</b>	WebEx/ Zoom
<b>Attendees:</b>	<p>Kerr, Lawrence (HHS/OS/OGA); Weinberger, Collin (OS/OGA); Moudy, Robin (OS/OGA); Chandrasekera, Ruvani (OS/OGA); Ferrey, Seth (OS/OGA); Aasen, Adam (HHS/OS/OGA); Snyder, Anne (HHS/OS/OGA); Wood, Rachel (HHS/OS/OGA); Olson, Leandra (HHS/OS/OGA); Schmeissner, Peter (HHS/OGA); LaHood, Natalie (OS/OGA); Smith, Steven T (Geneva); 'SmithSR1@state.gov'; Marks, Peter (FDA/CBER); Woodcock, Janet (FDA/CDER); Abdoo, Mark (FDA/OC); Disbrow, Gary (OS/ASPR/BARDA); Houchens, Christopher (OS/ASPR/BARDA); Johnson, Robert (OS/ASPR/BARDA); 'swaminathans@who.int'; 'ryanm@who.int'; 'simonsons@who.int'; 'simaom@who.int'; 'aylwardb@who.int'; Messonnier, Nancy (CDC/DDID/NCIRD/OD); Helfand, Rita (CDC/DDID/NCEZID/OD); Hyde, Terri (CDC/DDPHSIS/CGH/GID); Cohn, Amanda (CDC/DDID/NCIRD/OD); Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP); Brooks, John T. (CDC/DDID/NCHHSTP/DHPSE); Mair, Michael (FDA/OC); 'matthew.j.hepburn.civ@mail.mil'; Mcqueen, COL Anthony (HHS/IOS); Smith, Michael (MIL); 'sadam@fnih.org'; Lane, Cliff (NIH/NIAID) [E]; Gruber, Marion (FDA/CBER); Krause, Philip (FDA/CBER); Thomas, Ashley (FDA/CDER); 'borgesa@who.int'; Bugin, Kevin (FDA/CDER); Cho, David S (CBER) (FDA/CBER); Sizemore, Christine (NIH/FIC) [E]; Wholley, David (FNIH) [T]; Melencio, Cheryl (FNIH) [T]; Donis, Ruben (OS/ASPR/BARDA); Blatner, Gretta (OS/ASPR/BARDA); Ayala, Ana (OS/OGA); Tracy Carson; 'NANNEI, Claudia'; 'MCLIESH, Wendy Maree'; Fernandez, Jose (OS/OGA); Burr, Mara (HHS/OS/OGA); Bleimund, Emily (OS/OGA); Tromberg, Bruce (NIH/NIBIB) [E]; Heemskerk, Jill (NIH/NIBIB) [E]; Ella Nudell; Lamourelle, Gabrielle (HHS/OS/OGA); Yarielka Arrieta</p>

Please join the USG-WHO MCM Dialogue Call. This will be a biweekly call on Fridays from 8 to 9 am ET/ 1400- 1500 Geneva.

We will share the final agenda and the WebEx or Zoom information.

If you have any questions, please contact [Arnela.Lopez@hhs.gov](mailto:Arnela.Lopez@hhs.gov) and [Ana.Ayala@hhs.gov](mailto:Ana.Ayala@hhs.gov).

Larry Kerr, PhD  
Director

Office of Pandemic and Emerging Threats  
Office of Global Affairs  
U.S. Department of Health and Human Services

<b>Sender:</b>	Kerr, Lawrence (HHS/OS/OGA) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE>; Lopez, Arnela (OS/OGA) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=505A8FE681584CA49E73F219976891AA-LOPEZ, ARNE>
<b>Recipient:</b>	Kerr, Lawrence (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE <Lawrence.Kerr@hhs.gov>; Weinberger, Collin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=641554fc7843407585827af5898d9c26-Weinberger, <Collin.Weinberger@hhs.gov>; Moudy, Robin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d421d3e0f6474bc3857583cfc5870d69-Moudy, Robi <Robin.Moudy@hhs.gov>; Chandrasekera, Ruvani (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=678d9ff8e02d477ab5d0516bd3659a34-Chandraseke <Ruvani.Chandrasekera@hhs.gov>; Ferrey, Seth (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2d976148be6c4ea5a25eebf0fd101809-Ferrey, Set <Seth.Ferrey@hhs.gov>; Aasen, Adam (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9df94b81b7f549e08c44a157bd583f5d-Aasen, Adam <Adam.Aasen@hhs.gov>; Snyder, Anne (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7410775a42a540bbb71438b93c600bc8-Snyder, Ann <Anne.Snyder@hhs.gov>; Olson, Leandra (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dac295d944ee4b67b464d7d5041bb916-Olson, Lean <Leandra.Olson@hhs.gov>; Schmeissner, Peter (HHS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ca385a113d96474289fae94d7ef94614-Schmeissner <Peter.Schmeissner@hhs.gov>; LaHood, Natalie (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d7d5e131fd394ab3b1b0eb6f232851f1-Lahood, Nat <Natalie.Lahood@hhs.gov>; Smith, Steven T (Geneva) <SmithST1@state.gov>; 'SmithSR1@state.gov' <SmithSR1@state.gov>; Marks, Peter (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=df56588b970c43c8a9a2b9b31406746c-peter.marks <Peter.Marks@fda.hhs.gov>; Woodcock, Janet (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5f925e9a0f9147b186d40072d474d13d-janet.woodc <Janet.Woodcock@fda.hhs.gov>; Abdoo, Mark (FDA/OC) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d8893b91b3bd49b0978ac6b5d5423cd1-mark.abdoo. <Mark.Abdoo@fda.hhs.gov>; Disbrow, Gary (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0fd5845defda4dc0bb45f8fac629cf09-Disbrow, Ga <Gary.Disbrow@hhs.gov>; Houchens, Christopher (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7ac94a574bd04528b7c91bbd61893975-Houchens, C <Christopher.Houchens@hhs.gov>; Johnson, Robert (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0851e89240324306b78740a4a60745e2-Johnson, Ro <Robert.Johnson@hhs.gov>;

'swaminathans@who.int' <swaminathans@who.int>;  
 'ryanm@who.int' <ryanm@who.int>;  
 'simons@who.int' <simons@who.int>;  
 'simaom@who.int' <simaom@who.int>;  
 'aylwardb@who.int' <aylwardb@who.int>;  
 Messonnier, Nancy (CDC/DDID/NCIRD/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=eac7af7ae9754d4290d7aa8cbb537078-Rosenstein <nar5@cdc.gov>;  
 Helfand, Rita (CDC/DDID/NCEZID/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=28a17ce03de24abb3e9c9e1363c4017-Helfand, Ri <rzh7@cdc.gov>;  
 Hyde, Terri (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=653839b51d4442a7b5ad95e605761104-Hyde, Terri <tkh4@cdc.gov>;  
 Cohn, Amanda (CDC/DDID/NCIRD/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=592292f16e754034a268cecb6e2c3d29-Cohn, Amand <anc0@cdc.gov>;  
 Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=62643d5586b14f1798171ce903c12ea4-Montgomery, <ztq9@cdc.gov>;  
 Brooks, John T. (CDC/DDID/NCHHSTP/DHPSE) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1e50fbf05c64442fb27c1dd6897ea0a6-Brooks, Joh <zud4@cdc.gov>;  
 Mair, Michael (FDA/OC) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f3e2b23223bc4a1abecf698a4122f6c3-michael.mai <Michael.Mair@fda.hhs.gov>;  
 'matthew.j.hepburn.civ@mail.mil' <matthew.j.hepburn.civ@mail.mil>;  
 Mcqueen, COL Anthony (HHS/IOS) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ac168b9de8d04b0197d9839acff236c0-Mcqueen, An <Anthony.Mcqueen@hhs.gov>;  
 Smith, Michael (MIL) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c800c9096ab34f7da2dfded90f2e71ba-Michael.Smi <michael.w.smith93.mil@mail.mil>;  
 'sadam@fnih.org' <sadam@fnih.org>;  
 Lane, Cliff (NIH/NIAD) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=11a174ee688e426392d98ba9cd5e1945-cliff.lane. <CLANE@niaid.nih.gov>;  
 Gruber, Marion (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub <Marion.Gruber@fda.hhs.gov>;  
 Krause, Philip (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau <Philip.Krause@fda.hhs.gov>;  
 Thomas, Ashley (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6bcf9a5e75bc42dea48e4009c5342397-ashley.thom <Ashley.Thomas@fda.hhs.gov>;  
 'borgesa@who.int' <borgesa@who.int>;  
 Bugin, Kevin (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=55c4e5e4038442ff8866f40f603e52ce-kevin.bugin <Kevin.Bugin@fda.hhs.gov>;  
 Cho, David S (CBER) (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d79853f418ac488c9cd10b70d1e2b0f1-david.cho.f <David.Cho@fda.hhs.gov>;  
 Sizemore, Christine (NIH/FIC) [E] <christine.sizemore@nih.gov>;  
 Wholley, David (FNIH) [T] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=afc96d003f9d4a41831a2d77566ed34e-david.wholl <dwholley@fnih.org>;  
 Melencio, Cheryl (FNIH) [T] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c543edb17906477e8a65d209f589fce1-cheryl.mele <cmelencio@fnih.org>;  
 Donis, Ruben (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=af00dcf720cb429f8e2accbe06ee32ff-Donis, Rube <Ruben.Donis@hhs.gov>;  
 Blatner, Gretta (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=623cb123c2324236b1db6fb9153e0bbf-Blatner, Gr <Gretta.Blatner@hhs.gov>;

	<p>Ayala, Ana (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=80a408be55b14221a42c2b91002d6bf7-Ayala, Ana &lt;Ana.Ayala@hhs.gov&gt;;</p> <p>Tracy Carson /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=33c7d84fb82a48eeba8f4e0be680df60-TracyCarson &lt;CarsonTL@state.gov&gt;;</p> <p>'NANNEI, Claudia' &lt;nanneic@who.int&gt;;</p> <p>'MCLIESH, Wendy Maree' &lt;mclieshw@who.int&gt;;</p> <p>Fernandez, Jose (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=21d0317abb9f4d1bb2779f8b95826543-Fernandez, &lt;Jose.Fernandez@hhs.gov&gt;;</p> <p>Burr, Mara (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1789c53bbdbf412b9b31cc59cbd4bda2-Burr, Mara &lt;Mara.Burr@hhs.gov&gt;;</p> <p>Bleimund, Emily (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b229d23be0e24e03a3fd8244c450fb6b-Bleimund, E &lt;Emily.Bleimund@hhs.gov&gt;;</p> <p>Tromberg, Bruce (NIH/NIBIB) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8296eab89a64486a841aa06f835d77e0-bruce.tromb &lt;bruce.tromberg@nih.gov&gt;;</p> <p>Heemskerck, Jill (NIH/NIBIB) [E] &lt;jill.heemskerck@nih.gov&gt;;</p> <p>Ella Nudell (b)(6) georgetown.edu&gt;;</p> <p>Lamourelle, Gabrielle (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2cf3cb1a840847b3af0ea0c4d0d137c1-Lamourelle, &lt;Gabrielle.Lamourelle@hhs.gov&gt;;</p> <p>Yarielka Arrieta (b)(6) @gmail.com&gt;;</p> <p>Scharf, Sarah (NIH/OD) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d7be58c4b45c4e978f7614d7d73425f9-sarah.schar &lt;sarah.scharf@nih.gov&gt;;</p> <p>Hinton, Denise (FDA/OC) &lt;Denise.Hinton@fda.hhs.gov&gt;</p>
<b>Sent Date:</b>	2020/05/20 15:21:33
<b>Delivered Date:</b>	2020/05/20 15:21:32
<b>To:</b>	<p>Kerr, Lawrence (HHS/OS/OGA) /O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE &lt;Lawrence.Kerr@hhs.gov&gt;;</p> <p>Weinberger, Collin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=641554fc7843407585827af5898d9c26-Weinberger, &lt;Collin.Weinberger@hhs.gov&gt;;</p> <p>Moudy, Robin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d421d3e0f6474bc3857583cfc5870d69-Moudy, Robi &lt;Robin.Moudy@hhs.gov&gt;;</p> <p>Chandrasekera, Ruvani (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=678d9ff8e02d477ab5d0516bd3659a34-Chandraseke &lt;Ruvani.Chandrasekera@hhs.gov&gt;;</p> <p>Ferrey, Seth (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2d976148be6c4ea5a25eeb0fd101809-Ferrey, Set &lt;Seth.Ferrey@hhs.gov&gt;;</p> <p>Aasen, Adam (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9df94b81b7f549e08c44a157bd583f5d-Aasen, Adam &lt;Adam.Aasen@hhs.gov&gt;;</p> <p>Snyder, Anne (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7410775a42a540bbb71438b93c600bc8-Snyder, Ann &lt;Anne.Snyder@hhs.gov&gt;;</p> <p>Wood, Rachel (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=036283582622451c990865536a2e537b-Wood, Rache &lt;Rachel.Wood@hhs.gov&gt;;</p> <p>Olson, Leandra (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dac295d944ee4b67b464d7d5041bb916-Olson, Lean &lt;Leandra.Olson@hhs.gov&gt;;</p> <p>Schmeissner, Peter (HHS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ca385a113d96474289fae94d7ef94614-Schmeissner &lt;Peter.Schmeissner@hhs.gov&gt;;</p> <p>/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d7d5e131fd394ab3b1b0eb6f232851f1-Lahood, Nat &lt;LaHood, Natalie (OS/OGA)&gt;;</p>





	<p>           塏□萍塏勳 ㄟ 薊稠刊伯添塏勳 ㄟ 薊漣禮义弃剔哟噉[則問□校甜毓輻㊟匱詠叫□乃劍齡偉華呖□乃ㄟ枋煩            戴塚帙仕坵恬瞞恰格綢厶 ㄟ 气□軼褔□稠噉. &lt;EX&gt;;            /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub &lt;Gruber,            Marion (FDA/CBER)&gt;;            /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau &lt;Krause,            Philip (FDA/CBER)&gt;;            /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=6bcf9a5e75bc42dea48e4009c5342397-ashley.thom &lt;Thomas,            Ashley (FDA/CDER)&gt;;            ?? 맵□ㄟ越ㄟ号□ &lt;Ashley.Thomas.fda&gt;;         </p> <p> <b>CC:</b> 豺愕簪瓶薊椒址佈銑呖 맵□ㄟ越ㄟ号□ &lt;borgesa@who.int&gt;;            Kevin.Bugin@fda.hhs.gov &lt;Bugin, Kevin (FDA/CDER)&gt;;            塏□萍塏勳 ㄟ 薊稠刊伯添塏勳 ㄟ 薊漣禮义弃剔哟噉[則問□校甜毓輻㊟匱詠叫□乃劍齡偉華呖□乃臚愔匱            衿 ㄟ 柏劬帙們朦 ㄟ 猗臚蓓簪褔□縞鑣□勳□F 맵□ㄟ越ㄟ号□ &lt;ChoD.fda&gt;;            豺愕緝剔弃鏢噉匱婉髻靛瞞鑄□佇V 맵□ㄟ越ㄟ号□ &lt;Sizemore, Christine (NIH/FIC) [E]&gt;;            dwholley@fnihi.org &lt;Wholley, David (FNIH) [T]&gt;;            cmelencio@fnihi.org &lt;Melencio, Cheryl (FNIH) [T]&gt;;            6 EX;            &lt;7&gt;;            8 SMTP;            9 EX;            ; EX         </p>
<b>Type:</b>	OLE.CLASS.{00061055-0000-0000-C000-000000000046}

<b>Recipient:</b>	<p>           Kerr, Lawrence (HHS/OS/OGA) /o=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP            (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE            &lt;Lawrence.Kerr@hhs.gov&gt;;            Weinberger, Collin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=641554fc7843407585827af5898d9c26-Weinberger,            &lt;Collin.Weinberger@hhs.gov&gt;;            Moudy, Robin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=d421d3e0f6474bc3857583cfc5870d69-Moudy, Robi            &lt;Robin.Moudy@hhs.gov&gt;;            Chandrasekera, Ruvani (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=678d9ff8e02d477ab5d0516bd3659a34-Chandraseke            &lt;Ruvani.Chandrasekera@hhs.gov&gt;;            Ferrey, Seth (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=2d976148be6c4ea5a25eebf0fd101809-Ferrey, Set            &lt;Seth.Ferrey@hhs.gov&gt;;            Aasen, Adam (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=9df94b81b7f549e08c44a157bd583f5d-Aasen, Adam            &lt;Adam.Aasen@hhs.gov&gt;;            Snyder, Anne (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=7410775a42a540bbb71438b93c600bc8-Snyder, Ann            &lt;Anne.Snyder@hhs.gov&gt;;            Wood, Rachel (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=036283582622451c990865536a2e537b-Wood, Rache            &lt;Rachel.Wood@hhs.gov&gt;;            Olson, Leandra (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=dac295d944ee4b67b464d7d5041bb916-Olson, Lean            &lt;Leandra.Olson@hhs.gov&gt;;            Schmeissner, Peter (HHS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=ca385a113d96474289fae94d7ef94614-Schmeissner            &lt;Peter.Schmeissner@hhs.gov&gt;;            /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=d7d5e131fd394ab3b1b0eb6f232851f1-Lahood, Nat &lt;LaHood,            Natalie (OS/OGA)&gt;;            LaHood, Natalie (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group            (FYDIBOHF23SPDLT)/cn=Recipients/cn=d7d5e131fd394ab3b1b0eb6f232851f1-Lahood, Nat &lt;LaHood,         </p>
-------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

[illegible]



	<p>           豎口畚窠辨音I儼 Christopher.Houchens.os &lt;/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7ac94a574bd04528b7c91bbd61893975-Houchens, C&gt;;            /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0851e89240324306b78740a4a60745e2-Johnson, Ro            &lt;Robert.Johnson@hhs.gov&gt;;            SMTP;            SMTP;            SMTP;            SMTP;            SMTP;            /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=eac7af7ae9754d4290d7aa8cdb537078-Rosenstein            &lt;Messonnier, Nancy (CDC/DDID/NCIRD/OD)&gt;;            /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=28a17ce03de24abbb3e9c9e1363c4017-Helfand, Ri &lt;Helfand, Rita (CDC/DDID/NCEZID/OD)&gt;;            塏口滓塏動 丩薹穉刊伯添塏動 丩薹穉禮义弃剔哟噉[則問口校甜觚輒⊗匱跡叫口乃劍鈴偉華呖口乃裁ヲヂ            筭ハ母伋柄格季悛蘭⊗孌Lく 口奈蓋蒨割I &lt;Hyde, Terri (CDC/DDPHSIS/CGH/GID)&gt;;            /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=592292f16e754034a268cecb6e2c3d29-Cohn, Amand            &lt;anc0@cdc.gov&gt;;            Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=62643d5586b14f1798171ce903c12ea4-Montgomery,            &lt;ztq9@cdc.gov&gt;;            Brooks, John T. (CDC/DDID/NCHHSTP/DHPSE) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1e50fbf05c64442fb27c1dd6897ea0a6-Brooks, Joh            &lt;zud4@cdc.gov&gt;;            EX Michael.Mair.fda            &lt;塏口滓塏動 丩薹穉刊伯添塏動 丩薹穉禮义弃剔哟噉[則問口校甜觚輒⊗匱跡叫口乃劍鈴偉華呖口乃視蕪            箴姝侑篤劬口箴齡埃价佻綈綈紂口塾勅蕪口樞I&gt;;            糝得齧哟軫玲霽蹠僅吼兵繻噉繻繻口塾L &lt;SMTP&gt;;            EX ?? &lt;/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ac168b9de8d04b0197d9839acff236c0-Mcqueen, An&gt;;            塏口滓塏動 丩薹穉刊伯添塏動 丩薹穉禮义弃剔哟噉[則問口校甜觚輒⊗匱跡叫口乃劍鈴偉華呖口乃綵十繻            廿些箴伋穉穉臍臍臍廿⊗穀筭口塾勅蕪口糝I &lt;EX&gt;;            " SMTP;            Scharf, Sarah (NIH/OD) [E] scharfse.NIH            &lt;塏口滓塏動 丩薹穉刊伯添塏動 丩薹穉禮义弃剔哟噉[則問口校甜觚輒⊗匱跡叫口乃劍鈴偉華呖口乃臍穉            厖絳簾匱劬授穉穉L髻髻〃(名)祿口穉穉口穿秦R&gt;;            /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub Gruber,            Marion (FDA/CBER) &lt;Marion.Gruber@fda.hhs.gov&gt;;            /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau Krause,            Philip (FDA/CBER) &lt;Philip.Krause@fda.hhs.gov&gt;;            EX Ashley.Thomas.fda            &lt;塏口滓塏動 丩薹穉刊伯添塏動 丩薹穉禮义弃剔哟噉[則問口校甜觚輒⊗匱跡叫口乃劍鈴偉華呖口乃裁紆            悽却穀箴劬臍桂忉佐〃綈〃(名)恬口十鯨翫吮佈M&gt;;            &lt;borgesa@who.int&gt;;            맵口越入号口 4;            &lt;??&gt;;            &lt;5&gt;;            : 糝得齧繻口藤藝餽刼瞵鐳口佇V         </p>
CC:	<p>           塏口滓塏動 丩薹穉刊伯添塏動 丩薹穉禮义弃剔哟噉[則問口校甜觚輒⊗匱跡叫口乃劍鈴偉華呖口乃糝粉煩            藪塚扶佐坵恬臍格綈厖厖入汽口鉄褌口稠藟. &lt;EX&gt;;            /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=80a408be55b14221a42c2b91002d6b7-Ayala, Ana &lt;Ayala, Ana (OS/OGA)&gt;;            /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=33c7d84fb82a48eeba8f4e0be680df60-TracyCarson &lt;Tracy Carson&gt;;            'NANNEI, Claudia' &lt;nanneic@who.int&gt;;         </p>

	<p> <b>Fernandez, Jose (OS/OGA) &lt;sip:jose.fernandez@hhs.gov&gt;;</b>          坡口萍坡動 丿 麗稠刊伯添坡動 丿 麗禮禮義 卉剔哟哦[則問口校甜毓輻 ㊟ 區跡叫口乃劍齡偉慕呖口乃ㄣ級稠          ㄟ 簾陵祝憐得ㄟ 纖屏稠膜簾縻口吼割挺桤 Burr, Mara (HHS/OS/OGA) &lt;Mara.Burr&gt;;          /o=ExchangeLabs/ou=Exchange Administrative Group          (FYDIBOHF23SPDLT)/cn=Recipients/cn=b229d23be0e24e03a3fd8244c450fb6b-Bleimund, E          &lt;Bleimund, Emily (OS/OGA)&gt;;          /o=ExchangeLabs/ou=Exchange Administrative Group          (FYDIBOHF23SPDLT)/cn=Recipients/cn=b229d23be0e24e03a3fd8244c450fb6b-Bleimund, E Tromberg,          Bruce (NIH/NIBIB) [E];          &lt;, &gt;;          &lt;-&gt;;          6 EX;          /o=ExchangeLabs/ou=Exchange Administrative Group          (FYDIBOHF23SPDLT)/cn=Recipients/cn=afc96d003f9d4a41831a2d77566ed34e-david.wholl Melencio,          Cheryl (FNIH) [T];          8 EX;          /o=ExchangeLabs/ou=Exchange Administrative Group          (FYDIBOHF23SPDLT)/cn=Recipients/cn=623cb123c2324236b1db6fb9153e0bbf-Blatner, Gr &lt;Blatner,          Gretta (OS/ASPR/BARDA)&gt;;          &lt;??&gt;       </p>
<b>Subject:</b>	USG-WHO Dialogue on COVID-19 MCMs
<b>Type:</b>	OLE.CLASS.{00061055-0000-0000-C000-000000000046}

Please join the USG-WHO Dialogue on COVID-19 MCMs. This week's call will be on Friday, July 10 from 9 - 9:45 am ET/ 1500 - 1545 Geneva.

Domestic: (b)(6)  
 International: (b)(6)  
 Participant Passcode: (b)(6)

If you have any questions, please contact [Arnela.Lopez@hhs.gov](mailto:Arnela.Lopez@hhs.gov) and [Ruvani.Chandrasekera@hhs.gov](mailto:Ruvani.Chandrasekera@hhs.gov).

Larry Kerr, PhD  
 Director  
 Office of Pandemic and Emerging Threats  
 Office of Global Affairs  
 U.S. Department of Health and Human Services

<b>Recipient:</b>	<p>         Kerr, Lawrence (HHS/OS/OGA) /O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP          (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE          &lt;Lawrence.Kerr@hhs.gov&gt;;          Weinberger, Collin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group          (FYDIBOHF23SPDLT)/cn=Recipients/cn=641554fc7843407585827af5898d9c26-Weinberger,          &lt;Collin.Weinberger@hhs.gov&gt;;          Moudy, Robin (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group          (FYDIBOHF23SPDLT)/cn=Recipients/cn=d421d3e0f6474bc3857583cfc5870d69-Moudy, Robi          &lt;Robin.Moudy@hhs.gov&gt;;          Chandrasekera, Ruvani (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group          (FYDIBOHF23SPDLT)/cn=Recipients/cn=678d9ff8e02d477ab5d0516bd3659a34-Chandraseke          &lt;Ruvani.Chandrasekera@hhs.gov&gt;;          Ferrey, Seth (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group          (FYDIBOHF23SPDLT)/cn=Recipients/cn=2d976148be6c4ea5a25eebf0fd101809-Ferrey, Set          &lt;Seth.Ferrey@hhs.gov&gt;;       </p>
-------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

[illegible]

塢□滓塢勳ㄟ蒨稭刊伯添塢勳ㄟ蒨灋灋义弁剔哟噉[則問□校甜觚輗⊗匱跡叫□乃劍鈴偉華呖□乃ㄟ枋煩  
戴塚峽佉坵恬膺价格綢厶汽□軼褔□稍藟. <EX>;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=80a408be55b14221a42c2b91002d6bf7-Ayala, Ana <Ayala,  
Ana (OS/OGA)>;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=33c7d84fb82a48eeba8f4e0be680df60-TracyCarson <Tracy  
Carson>;  
'NANNEI, Claudia' <nanneic@who.int>;  
첼垂I顯□-뽕짱;  
Fernandez, Jose (OS/OGA) <sip:jose.fernandez@hhs.gov>;  
塢□滓塢勳ㄟ蒨稭刊伯添塢勳ㄟ蒨灋灋义弁剔哟噉[則問□校甜觚輗⊗匱跡叫□乃劍鈴偉華呖□乃ㄟ枋煩  
ㄟㄟ纂陵伋憫得ㄟㄟ纖屏綢膜簾縻□吼割挺稭 Burr, Mara (HHS/OS/OGA) <Mara.Burr>;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=b229d23be0e24e03a3fd8244c450fb6b-Bleimund, E  
<Bleimund, Emily (OS/OGA)>;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=b229d23be0e24e03a3fd8244c450fb6b-Bleimund, E Tromberg,  
Bruce (NIH/NIBIB) [E];  
<, >;  
<->;  
Scharf, Sarah (NIH/OD) [E] scharfse.NIH  
<塢□滓塢勳ㄟ蒨稭刊伯添塢勳ㄟ蒨灋灋义弁剔哟噉[則問□校甜觚輗⊗匱跡叫□乃劍鈴偉華呖□乃臚格  
厶厶筆匱恻愀輗ㄟㄟ腎蹕ㄟㄟ(畧祿□縻稭□穿奏R>;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub Gruber,  
Marion (FDA/CBER) <Marion.Gruber@fda.hhs.gov>;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau Krause,  
Philip (FDA/CBER) <Philip.Krause@fda.hhs.gov>;  
EX Ashley.Thomas.fda  
<塢□滓塢勳ㄟ蒨稭刊伯添塢勳ㄟ蒨灋灋义弁剔哟噉[則問□校甜觚輗⊗匱跡叫□乃劍鈴偉華呖□乃裁紆  
隸却製箬恻膺紐恻佉ㄟㄟ綢ㄟㄟ(畧恬□十鯨奔吮佈M>;  
<borgesa@who.int>;  
몹□ㄟ越A号□ 4;  
<??>;  
<5>;  
6 EX;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=afc96d003f9d4a41831a2d77566ed34e-david.wholl Melencio,  
Cheryl (FNIH) [T];  
8 EX;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=623cb123c2324236b1db6fb9153e0bbf-Blatner, Gr <Blatner,  
Gretta (OS/ASPR/BARDA)>;  
: 斜停蠹組□藤菱飽刼瞞鑽□付V;  
<??>

Ella Nudell <en419@georgetown.edu>;  
塢□滓塢勳ㄟ蒨稭刊伯添塢勳ㄟ蒨灋灋义弁剔哟噉[則問□校甜觚輗⊗匱跡叫□乃劍鈴偉華呖□乃梲薩脯  
□穀慨偶謁纂匱掖液垚□闊輗□藩割稭刼E 몹□ㄟ越A号□ <Lawrence.Kerr.OS>;  
Collin.Weinberger.OS sip:collin.weinberger@hhs.gov <Weinberger, Collin (OS/OGA)>;  
Robin.Moudy.OS sip:robin.moudy@hhs.gov <Moudy, Robin (OS/OGA)>;  
Ruvani.Chandrasekera.OS sip:ruvani.chandrasekera@hhs.gov <Chandrasekera, Ruvani (OS/OGA)>;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
**To:** (FYDIBOHF23SPDLT)/cn=Recipients/cn=2d976148be6c4ea5a25eebf0fd101809-Ferrey, Set  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=9df94b81b7f549e08c44a157bd583f5d-Aasen, Adam;  
□端□梟ㄟ鄉□n EX;  
EX;  
EX;  
EX;  
SMTP;







SmithST1@state.gov <Smith, Steven T (Geneva)>;  
'SmithSR1@state.gov' d <SmithSR1@state.gov>;  
d;  
d;  
d;  
sip:gary.disbrow@hhs.gov d;  
sip:christopher.houchens@hhs.gov </o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=7ac94a574bd04528b7c91bbd61893975-Houchens, C>;  
SMTP;  
SMTP;  
SMTP;  
SMTP;  
SMTP;  
EX;  
EX;  
EX;  
??;  
Cohn, Amanda (CDC/DDID/NCIRD/OD) /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=592292f16e754034a268cecb6e2c3d29-Cohn, Amand  
<anc0@cdc.gov>;  
Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative  
Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=62643d5586b14f1798171ce903c12ea4-Montgomery,  
<ztq9@cdc.gov>;  
Brooks, John T. (CDC/DDID/NCHHSTP/DHPSE) /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=1e50bf05c64442fb27c1dd6897ea0a6-Brooks, Joh  
<zud4@cdc.gov>;  
맵□ㄹㄹㄹㄹㄹ /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=f3e2b23223bc4a1abecf698a4122f6c3-michael.mai;  
matthew.j.hepburn.civ@mail.mil <맵□ㄹㄹㄹㄹㄹ>;  
Anthony.Mcqueen 맵□ㄹㄹㄹㄹㄹ;  
'sadam@fnih.org';  
Lane, Cliff (NIH/NIAID) [E];  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=11a174ee688e426392d98ba9cd5e1945-cliff.lane. Gruber,  
Marion (FDA/CBER);  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub Krause,  
Philip (FDA/CBER);  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau Thomas,  
Ashley (FDA/CDER);  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=6bcf9a5e75bc42dea48e4009c5342397-ashley.thom  
'borgesa@who.int';  
?? <'borgesa@who.int'>;  
Bugin, Kevin (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=55c4e5e4038442ff8866f40f603e52ce-kevin.bugin <Bugin,  
Kevin (FDA/CDER)>;  
Cho, David S (CBER) (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=d79853f418ac488c9cd10b70d1e2b0f1-david.cho.f <Cho, David  
S (CBER)>;  
Sizemore, Christine (NIH/FIC) [E] <맵□ㄹㄹㄹㄹㄹ>;  
Wholley, David (FNIH) [T] /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=afc96d003f9d4a41831a2d77566ed34e-david.wholl <Wholley,  
David (FNIH) [T]>;  
Melencio, Cheryl (FNIH) [T] /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=c543edb17906477e8a65d209f589fce1-cheryl.mele <Melencio,  
Cheryl (FNIH) [T]>;  
Donis, Ruben (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=af00dcf720cb429f8e2accbe06ee32ff-Donis, Rube <Donis,  
Ruben (OS/ASPR/BARDA)>;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=623cb123c2324236b1db6fb9153e0bbf-Blatner, Gr Ayala, Ana  
(OS/OGA);



(FYDIBOHF23SPDLT)/cn=Recipients/cn=7ac94a574bd04528b7c91bbd6b1893975-Houchens, C>;  
EX Robert.Johnson  
<埠口滓埠勱丿莧稠乂伯添埠勱丿莧禳禮义弁剔哟噉[則問□校甜觚輻⊗廩跡叫□乃劍齡偉萼呖□乃氣匯  
菴憐伙ゝ伙 / 答埠份稱稱Ⓢ偶蘭□佞么体w刪O>;  
<'swaminathans@who.int'>;  
<'ryanm@who.int'>;  
<'simonsons@who.int'>;  
<'simaom@who.int'>;  
<'aylwardb@who.int'>;  
埠口滓埠勱丿莧稠乂伯添埠勱丿莧禳禮义弁剔哟噉[則問□校甜觚輻⊗廩跡叫□乃劍齡偉萼呖□乃鎔粕煩  
蔭ゝ蓋伏簪纂然絢隊ゝぢ効□□藤襍\㒺刪I <EX>;  
埠口滓埠勱丿莧稠乂伯添埠勱丿莧禳禮义弁剔哟噉[則問□校甜觚輻⊗廩跡叫□乃劍齡偉萼呖□乃栽?ぢ  
筵ゝ母伋柄裕季悛蘭Ⓢ嬢L&k □奈蓋衙割I <EX>;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=592292f16e754034a268cecb6e2c3d29-Cohn, Amand  
<anc0@cdc.gov>;  
埠口滓埠勱丿莧稠乂伯添埠勱丿莧禳禮义弁剔哟噉[則問□校甜觚輻⊗廩跡叫□乃劍齡偉萼呖□乃栽坬ぢ  
厫帑參々怙愰□□蔭卅纏閑桂□位呖佇蕎麥, <EX>;  
埠口滓埠勱丿莧稠乂伯添埠勱丿莧禳禮义弁剔哟噉[則問□校甜觚輻⊗廩跡叫□乃劍齡偉萼呖□乃岷屏誕  
綽匪埃伋(佑)嫻嬾Ⓢ腴軌耀桂秣□劑沕古倭H <EX>;  
埠口滓埠勱丿莧稠乂伯添埠勱丿莧禳禮义弁剔哟噉[則問□校甜觚輻⊗廩跡叫□乃劍齡偉萼呖□乃祝蕤籜  
姦甯箇飮□箆鈴垢仙侏琳侵綃□整軀葉□梃I <EX>;  
耕脣齟吻轉玲蠶躡重吼丘繡縹璲錫□盤L <SMTP>;  
埠口滓埠勱丿莧稠乂伯添埠勱丿莧禳禮义弁剔哟噉[則問□校甜觚輻⊗廩跡叫□乃劍齡偉萼呖□乃栖Ⓢ帆  
得蓋臚仁あ恒驥恰恬縠褌姦紉□穀唸縋w滄N <EX>;  
</o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=c800c9096ab34f7da2dfded90f2e71ba-Michael.Smi>;  
SMTP 耕脣区脊趨鋤鍇□瓶G <sadam@fnih.org>;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=11a174ee688e426392d98ba9cd5e1945-cliff.lane. clane.NIH  
<CLANE@niaid.nih.gov>;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=6bcf9a5e75bc42dea48e4009c5342397-ashley.thom <Thomas,  
Ashley (FDA/CDER)>;  
<'borgesa@who.int'>;  
埠口滓埠勱丿莧稠乂伯添埠勱丿莧禳禮义弁剔哟噉[則問□校甜觚輻⊗廩跡叫□乃劍齡偉萼呖□乃面編藪  
蘭ノ令伋浸氈至緘ノ垢ゝ屨纏□瘡鎖□吼鐳N <EX>;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=d79853f418ac488c9cd10b70d1e2b0f1-david.cho.f <Cho, David  
S (CBER) (FDA/CBER)>;  
2 SMTP;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=afc96d003f9d4a41831a2d77566ed34e-david.wholl <Wholley,  
David (FNIH) [T]>;  
?? <EX>;  
<5>;  
Lamourelle, Gabrielle (HHS/OS/OGA) <sip:gabrielle.lamourelle@hhs.gov>

	<p>(FYDIBOHF23SPDLT)/cn=Recipients/cn=67117ba1e0034e4e9f3d50c794331e1f-kathleen.do Dooling, Kathleen L. (CDC/DDID/NCIRD/DVD) &lt;vic9@cdc.gov&gt;;  /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub Gruber, Marion (FDA/CBER) &lt;Marion.Gruber@fda.hhs.gov&gt;;  /o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau ??  &lt;KRAUSE.fda&gt;;  &lt;6&gt;;  Blatner, Gretta (OS/ASPR/BARDA) &lt;/o=ExchangeLabs/ou=Exchange Administrative Group  (FYDIBOHF23SPDLT)/cn=Recipients/cn=623cb123c2324236b1db6fb9153e0bbf-Blatner, Gr&gt;;  &lt;□き罇穉躑詞鑽咕&gt;;  Ella Nudell 9 &lt;d&gt;;  Yarielka Arrieta Yarielka Arrieta &lt;맵□@越入号□&gt;</p>
<b>Subject:</b>	USG-WHO MCM Dialogue Call- WebEx Information Embedded
<b>Type:</b>	OLE.CLASS.{00061055-0000-0000-C000-000000000046}

Please join the USG-WHO MCM Dialogue Call on July 24. This will be a biweekly call on Fridays from 8 to 9 am DC/Atlanta, 1400- 1500 Geneva.

Please find attached the slides, agenda, and notes from the previous meetings.

<b>When it's time, join your Webex meeting here.</b>

Meeting number (access code):	(b)(6)
-------------------------------	--------

Meeting password: (b)(6)

[Join meeting](#)

☐

**Tap to join from a mobile device (attendees only)**

b)(6)	US Toll
-------	---------

### Join by phone

b)(6) US Toll

## Global call-in numbers

## Join from a video system or application

Dial (b)(6)

Join using Microsoft Lync or Microsoft Skype for Business

Dial (b)(6)

Need help? Go to <http://help.webex.com>

Larry Kerr, PhD  
Director  
Office of Pandemic and Emerging Threats  
Office of Global Affairs  
U.S. Department of Health and Human Services

[illegible]

甌授あ悽多格員曆 / 爇醴燐臂 口 稭藟 口 佗穰 C>;  
EX Mark.Abdoo.fda  
<埠口滓塹勳 丩 麓稭 卂 伯添塹勳 丩 麓濯禮义 弁 剔 哟 噉 [則問 口 校甜觚輒 ㊟ 匱跡 叫 口 乃 劍齡偉 穉 呖 口 乃 臚 帙  
ㄣ 得 筭 筭 母 筭 怎 輟 繼 答 膜 仔 ㄣ 穉 口 挺 飽 扶 膜 住 .>;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=0fd5845defda4dc0bb45f8fac629cf09-Disbrow, Ga  
Gary.Disbrow.OS <Gary.Disbrow@hhs.gov>;  
EX Houchens, Christopher (OS/ASPR/BARDA) </o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=7ac94a574bd04528b7c91bbd61893975-Houchens, C>;  
EX Robert.Johnson  
<埠口滓塹勳 丩 麓稭 卂 伯添塹勳 丩 麓濯禮义 弁 剔 哟 噉 [則問 口 校甜觚輒 ㊟ 匱跡 叫 口 乃 劍齡偉 穉 呖 口 乃 匱  
穉 悽 伏 ㄣ 伏 / 答 輟 偶 稭 稭 ㊟ 偶 蘭 口 佞 么 体 ㄣ 刪 O>;  
<'swaminathans@who.int'>;  
<'ryanm@who.int'>;  
<'simonsons@who.int'>;  
<'simaom@who.int'>;  
<'aylwardb@who.int'>;  
埠口滓塹勳 丩 麓稭 卂 伯添塹勳 丩 麓濯禮义 弁 剔 哟 噉 [則問 口 校甜觚輒 ㊟ 匱跡 叫 口 乃 劍齡偉 穉 呖 口 乃 佗 柏 燐  
蔭 ㄣ 蓋 伏 簞 纂 然 綢 蔭 ㄣ ㄣ 叻 口 口 藤 漬 丩 刪 I <EX>;  
埠口滓塹勳 丩 麓稭 卂 伯添塹勳 丩 麓濯禮义 弁 剔 哟 噉 [則問 口 校甜觚輒 ㊟ 匱跡 叫 口 乃 劍齡偉 穉 呖 口 乃 裁 ㄣ ㄣ  
筭 ㄣ 母 夕 柄 格 季 悽 蘭 ㊟ 孃 ㄣ ㄣ 口 奈 蓋 荷 割 I <EX>;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=592292f16e754034a268cecb6e2c3d29-Cohn, Amand  
<anc0@cdc.gov>;  
埠口滓塹勳 丩 麓稭 卂 伯添塹勳 丩 麓濯禮义 弁 剔 哟 噉 [則問 口 校甜觚輒 ㊟ 匱跡 叫 口 乃 劍齡偉 穉 呖 口 乃 裁 坩 ㄣ  
厖 市 答 多 ㄣ 恰 ㄣ ㄣ 薩 ㄣ 繼 繼 桂 口 位 呖 什 蕎 麥 , <EX>;  
埠口滓塹勳 丩 麓稭 卂 伯添塹勳 丩 麓濯禮义 弁 剔 哟 噉 [則問 口 校甜觚輒 ㊟ 匱跡 叫 口 乃 劍齡偉 穉 呖 口 乃 ㄣ 厖 裊  
襖 匪 坩 夕 ㄣ 寫 蠟 ㄣ 腭 帆 耀 桂 稭 口 剂 住 忒 佞 H <EX>;  
埠口滓塹勳 丩 麓稭 卂 伯添塹勳 丩 麓濯禮义 弁 剔 哟 噉 [則問 口 校甜觚輒 ㊟ 匱跡 叫 口 乃 劍齡偉 穉 呖 口 乃 視 然 簞  
ㄣ ㄣ 竊 叻 口 蔣 齡 垢 岫 ㄣ ㄣ 綉 綉 綉 口 墊 叻 莖 口 挺 I <EX>;  
穉 倂 齧 叻 軫 垠 露 蹠 僅 吼 丘 繡 噉 齧 口 墊 L <SMTP>;  
埠口滓塹勳 丩 麓稭 卂 伯添塹勳 丩 麓濯禮义 弁 剔 哟 噉 [則問 口 校甜觚輒 ㊟ 匱跡 叫 口 乃 劍齡偉 穉 呖 口 乃 栖 ㄣ 帆  
得 蓋 腫 佞 ㄣ 恒 蹠 岫 悽 襖 ㄣ ㄣ 綉 綉 口 穀 噉 噉 ㄣ 襖 N <EX>;  
</o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=c800c9096ab34f7da2dfded90f2e71ba-Michael.Smi>;  
SMTP 穉 倂 区 髒 齧 棚 鑄 口 瓶 G <sadam@fnih.org>;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=11a174ee688e426392d98ba9cd5e1945-cliff.lane. clane.NIH  
<CLANE@niaid.nih.gov>;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=80a408be55b14221a42c2b91002d6bf7-Ayala, Ana Ayala, Ana  
(OS/OGA) <Ana.Ayala@hhs.gov>;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=33c7d84fb82a48eeba8f4e0be680df60-TracyCarson Tracy  
Carson <CarsonTL@state.gov>;  
nanneic@who.int 'NANNEI, Claudia' <nanneic@who.int>;  
穉 倂 齧 齧 華 衛 贈 璽 口 义 T ㄣ ㄣ ㄣ 越 ㄣ 号 口 <MCLIESH, Wendy Maree>;  
EX </o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=21d0317abb9f4d1bb2779f8b95826543-Fernandez,>;  
Bleimund, Emily (OS/OGA) <sip:emily.bleimund@hhs.gov>;  
bruce.tromberg@nih.gov ㄣ ㄣ ㄣ 越 ㄣ 号 口 <trombergbj.NIH>;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=67117ba1e0034e4e9f3d50c794331e1f-kathleen.do Dooling,  
Kathleen L. (CDC/DDID/NCIRD/DVD) <vic9@cdc.gov>;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub Gruber,  
Marion (FDA/CBER) <Marion.Gruber@fda.hhs.gov>;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau ??  
<KRAUSE.fda>;  
/o=ExchangeLabs/ou=Exchange Administrative Group



(FYDIBOHF23SPDLT)/cn=Recipients/cn=6bcf9a5e75bc42dea48e4009c5342397-ashley.thom <Thomas, Ashley (FDA/CDER)>;  
<'borgesa@who.int'>;  
垳□滓垳勒 丩薨稠刊伯添垳勒 丩薨禮豐义卉剔哟噉[則問□校甜毓輒⊗匱跡叫□乃劍齡偉蕞呖□乃啗編藪  
藺ノ令伢侵幌歪涵ノ垳ヱ厖縑□塘鎖□吼鎬N <EX>;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=d79853f418ac488c9cd10b70d1e2b0f1-david.cho.f <Cho, David  
S (CBER) (FDA/CBER)>;  
2 SMTP;  
/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=afc96d003f9d4a41831a2d77566ed34e-david.wholl <Wholley,  
David (FNIH) [T]>;  
?? <EX>;  
<5>;  
<6>;  
Blatner, Gretta (OS/ASPR/BARDA) </o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=623cb123c2324236b1db6fb9153e0bbf-Blatner, Gr>;  
<□き 째穉躑詞鎡咕>;  
Ella Nudell 9 <d>;  
Lamourelle, Gabrielle (HHS/OS/OGA) <sip:gabrielle.lamourelle@hhs.gov>;  
Yarielka Arrieta Yarielka Arrieta <맵□躑越Λ목□>

<b>From:</b>	Kerr, Lawrence (HHS/OS/OGA) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE>
<b>SentVia:</b>	Lopez, Arnela (OS/OGA) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=505A8FE681584CA49E73F219976891AA-LOPEZ, ARNE>
<b>To:</b>	Kerr, Lawrence (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8ce9de2e7497472bb758f8fd6e262c86-Kerr, Lawre <Lawrence.Kerr@hhs.gov>; 'swaminathans@who.int' <swaminathans@who.int>; 'aylwardb@who.int' <aylwardb@who.int>
<b>Subject:</b>	USG-WHO MCM Cooperation Call
<b>Date:</b>	2020/06/11 20:35:16
<b>Start Date:</b>	2020/06/12 08:00:00
<b>End Date:</b>	2020/06/12 08:30:00
<b>Priority:</b>	Normal
<b>Type:</b>	Appointment
<b>Location:</b>	Conference line below

USG-WHO MCM Cooperation Call: Dr. Larry Kerr, Dr. Soumya Swaminathan and Dr. Bruce Aylward.

Domestic: (b)(6)  
International: (b)(6)  
Participant Passcode: (b)(6)

<b>Sender:</b>	Kerr, Lawrence (HHS/OS/OGA) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE>; Lopez, Arnela (OS/OGA) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=505A8FE681584CA49E73F219976891AA-LOPEZ, ARNE>
<b>Recipient:</b>	Kerr, Lawrence (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8ce9de2e7497472bb758f8fd6e262c86-Kerr, Lawre <Lawrence.Kerr@hhs.gov>; 'swaminathans@who.int' <swaminathans@who.int>; 'aylwardb@who.int' <aylwardb@who.int>
<b>Sent Date:</b>	2020/06/11 20:35:16

<b>From:</b>	<Lawrence.Kerr@hhs.gov>
<b>To:</b>	Evaluation Only. Created with Aspose.HTML. Copyright 2013-2020 Aspose Pty Ltd.ive Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a41903d9dedb4a2d996190c9bea68982-Christie, A <akc9@cdc.gov>; Walke, Henry (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a4fec678cea4ee7a1436ed6ec669c27-Walke, Henr <hfw3@cdc.gov>; Damon, Inger K. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0200deb66dbc44f5aca3f26ed15cdc6a-Damon, Inge <iad7@cdc.gov>
<b>Subject:</b>	Fwd: How'd presser go?
<b>Date:</b>	2019/09/25 17:55:17
<b>Priority:</b>	Normal
<b>Type:</b>	Note

Mike Ryan's slides below.

Sent from my iPhone

Begin forwarded message:

**From:** "Mciff, Colin (HHS/OS/OGA)" <Colin.Mciff@hhs.gov>  
**Date:** September 25, 2019 at 4:35:49 PM EDT  
**To:** "Grigsby, Garrett (HHS/OS/OGA)" <Garrett.Grigsby@hhs.gov>, "Kerr, Lawrence (HHS/OS/OGA)" <Lawrence.Kerr@hhs.gov>  
**Subject:** Re: How'd presser go?

These are the two slides Mike sent Garrett and me this morning in case they are what you need to save Garrett the trouble.

best,

Colin

**From:** Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov>  
**Sent:** Wednesday, September 25, 2019 10:24 PM  
**To:** Kerr, Lawrence (HHS/OS/OGA) <Lawrence.Kerr@hhs.gov>  
**Cc:** Mciff, Colin (HHS/OS/OGA) <Colin.Mciff@hhs.gov>  
**Subject:** Re: How'd presser go?

Will send when I get home

Sent from my iPhone

On Sep 25, 2019, at 4:23 PM, Kerr, Lawrence (HHS/OS/OGA) <Lawrence.Kerr@hhs.gov> wrote:

I was blown away by his synthesis of the 10 takeaway points!  
Rebecca is trying to get Mike R's IMS organogram. Can you get the Boss's? CDC has one so they are the best ones to synthesize and offer a consolidated position I think.

Sent from my iPhone

On Sep 25, 2019, at 4:04 PM, Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov> wrote:

Sent from my iPhone

Begin forwarded message:

**From:** "Pratt, Michael (OS/ASPA)" <Michael.Pratt@hhs.gov>  
**Date:** September 25, 2019 at 3:04:55 PM EDT  
**To:** "Grigsby, Garrett (HHS/OS/OGA)" <Garrett.Grigsby@hhs.gov>  
**Subject:** Re: How'd presser go?

Great. Four or five q's. Mostly to Tedros but all good. Boss made "DRC is leading" point.

Sent from my iPhone

On Sep 25, 2019, at 2:47 PM, Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov> wrote:

Sent from my iPhone

<b>Sender:</b>	<Lawrence.Kerr@hhs.gov>
<b>Recipient:</b>	Christie, Athalia (CDC/DDPHSIS/CGH/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a41903d9dedb4a2d996190c9bea68982-Christie, A <akc9@cdc.gov>; Walke, Henry (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a4fec678cea4ee7a1436ed6ec669c27-Walke, Henr <hfw3@cdc.gov>; Damon, Inger K. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0200deb66dbc44f5aca3f26ed15cdc6a-Damon, Inge <iad7@cdc.gov>
<b>Sent Date:</b>	2019/09/25 17:55:11
<b>Delivered Date:</b>	2019/09/25 17:55:17
<b>Message Flags:</b>	Unsent

# DRC President

## Public Health Operations

## Enabling Operations

### Prime Minister

SRSG Leila Zerrougui

Multi-sectoral  
commission

EERC David Gressly

Political engagement

Security

Community engagement

Operations support

Humanitarian action  
beyond Ebola

Prof. Muyembe

Minister of  
Health

ADG Fall

Technical  
Secretariat

National Coordination  
Committee

National Incident Manager  
(Goma) Prof. Ahuka

Partners

Risk Communication

Psychosocial Support

Laboratories

Clinical Mangement  
& Isolation

Safe & Dignified  
Burials

Operational Readiness  
in at Risk Provinces

Surveillance, Contact  
Tracing & Vaccination

Infection Prevention  
Control

Sub-national coordination

Beni

Mangina

Mambasa

Bunia

Butembo

Goma

Komanda

Bukawu

To:

Boucher, David (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=41293945651d475fa0413062a819aac5-Boucher, Da <David.Boucher@hhs.gov>;  
Zarrabian, Amanda (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0c650b07917242129deb0f942bb4cc10-Zarrabian, <amanda.zarrabian@hhs.gov>;  
Ayala, Ana (OS/ASPR/SPPR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=80a408be55b14221a42c2b91002d6bf7-Ayala, Ana <Ana.Ayala@hhs.gov>;  
Biggins, Julia E CTR (USA) <julia.e.biggins.ctr@mail.mil>;  
Birnkrant, Debra B (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=57a9d96c3a884fc0808702ed5d3a7b4c-debra.birnkrant <Debra.Birnkrant@fda.hhs.gov>;  
Carter, Rosalind J. (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f16dc874b53240f7a323b1246027e71c-roosalind.ca <rdc6@cdc.gov>;  
Cho, David S (CBER) (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d79853f418ac488c9cd10b70d1e2b0f1-david.cho.f <David.Cho@fda.hhs.gov>;  
Cossaboom, Caitlin (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2063b181b77a49a4b498ee8b7afa7478-caitlin.cos <nrm9@cdc.gov>;  
Wolfe, Daniel (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=01933911e406492fbd7f86e0235944d7-Wolfe, Dani <Daniel.Wolfe2@hhs.gov>;  
Deussing, Eric (CDC/OD/OCS) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d0e1290339b14ad6844f56b40d0c6661-eric.deussi <ncu0@cdc.gov>;  
Diaz-Diaz, Carol (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3b2b5f0685df417b9e2a0018c6fd251f-Diaz-Diaz, <Carol.Diaz-diaz@hhs.gov>;  
Disbrow, Gary (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0fd5845defda4dc0bb45f8fac629cf09-Disbrow, Ga <Gary.Disbrow@hhs.gov>;  
Higgs, Elizabeth (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ce3e542539154ce59df4bedbc8741ebf-elizabeth.h <ehiggs@niaid.nih.gov>;  
Fitter, David L. (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=fbd8cb8b5f054c98a5d907ce4a8f2bde-david.fitte <vid3@cdc.gov>;  
Gentles, Andrew (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=cd01d5eb6d814cbcb9d6547155eb7596-andrew.gent <Andrew.Gentles@fda.hhs.gov>;  
Hassell, David (Chris) (OS/ASPR/IO) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=aedbfb0ff96e4119ac7a3b3abaf71a3d-Hassell, Da <David.Hassell@hhs.gov>;  
Schiltz, Helen (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=89f2008d8dd04f5ea7695f37929f6df7-helen.schil <hschiltz@niaid.nih.gov>;  
Marston, Hilary (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=93be476c17024bbcbcb5b44add01fe6a8-hilary.mars <hilary.marston@nih.gov>;  
Hughes, Craig (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a4ade4d09cb444bb995d03c84d1f0746-Hughes, Cra <Craig.Hughes@hhs.gov>;  
Damon, Inger K. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0200deb66dbc44f5aca3f26ed15cdc6a-Damon, Inge <iad7@cdc.gov>;  
Inger-Marie Vilcins (ivilcins@hivresearch.org) <ivilcins@hivresearch.org>;  
Walldorf, Jenny A. (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e2813aaef1f94f96bb247826243e3811-jenny.walld <igf4@cdc.gov>;  
Kahn, Emily B. (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ff8628c4e15948b3b03805d50c3d0eee-Kahn, Emily <ebk9@cdc.gov>;  
Bok, Karin (NIH/VRC) [E] /o=ExchangeLabs/ou=Exchange Administrative Group

(FYDIBOHF23SPDLT)/cn=Recipients/cn=6d1dc469e6684003a0a89b132e8b7916-karin.bok.n  
<karin.bok@nih.gov>;  
Kayvon Modjarrad <kmodjarrad@hivresearch.org>;  
Kishimori, Jennifer M COL USARMY OSD OUSD P-R (US) (jennifer.m.kishimori.mil@mail.mil)  
<jennifer.m.kishimori.mil@mail.mil>;  
Ledgerwood, Julie (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=45778324d47644eeb9fced6acbf5108f-julie.marti  
<JUMARTIN@niaid.nih.gov>;  
Marinissen, Maria (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=5d42fb4d94b041ee88e4f7dd5743e893-Marinissen,  
<Maria.Marinissen@hhs.gov>;  
Gruber, Marion (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub  
<Marion.Gruber@fda.hhs.gov>;  
Marks, Peter (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=df56588b970c43c8a9a2b9b31406746c-peter.marks  
<Peter.Marks@fda.hhs.gov>;  
Meltzer, Martin I. (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=7d4e5aa77412403b9ae866e4c8312e79-Meltzer, Ma  
<qzm4@cdc.gov>;  
Choi, Mary Joung (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=c9f8d54090194cf7be8e49b80bca7328-mary.choi.c  
<whz2@cdc.gov>;  
Merchilinsky, Michael (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=29a4736917274e3783b5570c29518cdf-Merchilinsky  
<Michael.Merchilinsky@hhs.gov>;  
Mair, Michael (FDA/OC) /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=f3e2b23223bc4a1abecf698a4122f6c3-michael.mai  
<Michael.Mair@fda.hhs.gov>;  
Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative  
Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=62643d5586b14f1798171ce903c12ea4-Montgomery,  
<ztq9@cdc.gov>;  
Moudy, Robin (OS/ASPR/SPPR) /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=d421d3e0f6474bc3857583cfc5870d69-Moudy, Robi  
<Robin.Moudy@hhs.gov>;  
Nelson Michael <nmichael@hivresearch.org>;  
Bryant, Paula (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=b4fe56a126fc4da2a4a187dece3928e2-paula.bryan  
<paula.bryant@nih.gov>;  
Pawlicki, Nathan J CTR DHA MED COUNTERMEASURES (US) (nathan.j.pawlicki.ctr@mail.mil)  
<nathan.j.pawlicki.ctr@mail.mil>;  
Krause, Philip (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau  
<Philip.Krause@fda.hhs.gov>;  
Arthur, Ray (CDC/DDPHSIS/CGH/DGHP) /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=855f8ca30adc4a59906fd6647ac8371d-Arthur, Ray  
<rca8@cdc.gov>;  
Helfand, Rita (CDC/DDID/NCEZID/OD) /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=28a17ce03de24abbb3e9c9e1363c4017-Helfand, Ri  
<rzh7@cdc.gov>;  
Sabourin, Carol (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=46ae47e8f4b34a6e9d2804b44e192651-Sabourin, C  
<Carol.Sabourin@hhs.gov>;  
Samuel, Anita (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=9238fa3a950b4c118cad476c0ef01c40-anita.samue  
<kyp8@cdc.gov>;  
Simon, David (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=a7d46815edf04bb28ac3ea25ff3d3268-Simon, Davi  
<David.Simon@hhs.gov>;  
Styrt, Barbara (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=fd3d53d2e3994f678050e141d6a0b9db-barbara.sty  
<Barbara.Styrt@fda.hhs.gov>;  
Suzanne Mate <suzanne.e.mate.mil@mail.mil>;  
Taylor, Kimberly (NIH/NIAID) [E] <kimberly.taylor3@nih.gov>;  
Taylor, Marva (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=34ad843b32e14d9fb5e825646336d169-Taylor, Mar

	<Marva.Taylor@hhs.gov>; Hyde, Terri (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=653839b51d4442a7b5ad95e605761104-Hyde, Terri <tkh4@cdc.gov>; Thompson, Elizabeth (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ebdef60dc3794a8db0daf295649d05f0-elizabeth.t <Elizabeth.Thompson@fda.hhs.gov>; Turley, Danielle (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=befe52d068424520bd5f5eddb942ff4d-Turley, Dan <Danielle.Turley@hhs.gov>; Walke, Henry (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a4fec678cea4ee7a1436ed6ec669c27-Walke, Henr <hfw3@cdc.gov>; Walker, Robert (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7a02e128c60f4a7195532a1545af9556-Walker, Rob <Robert.Walker@hhs.gov>; Weinberger, Collin (OS/OGA) (CTR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=641554fc7843407585827af5898d9c26-Weinberger, <Collin.Weinberger@hhs.gov>; Yu, Yon C. (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=bbdd97c36ce040d8adc6dc54932741bd-Yu, Yon C. <fkb8@cdc.gov>
<b>Subject:</b>	RE: Ebola MCM Scientific WG - Agenda (10/8)
<b>Date:</b>	2019/10/13 10:31:51
<b>Priority:</b>	Normal
<b>Type:</b>	Note

Followed by:

Congo Plans to Start Using J&J's Ebola Vaccine From Next Month

Oct 12 2019, 9:48 PM Oct 13 2019, 4:16 PM October 12 2019, 9:48 PM October 13 2019, 4:16 PM

(Bloomberg) -- The Democratic Republic of Congo will distribute a second vaccination for Ebola from Johnson & Johnson at the beginning of November.

The vaccine will first be distributed to two communes in Goma, the trading hub on the border with Rwanda, Dr. Jean-Jacques Muyembe, the head of the country's Ebola response effort, told reporters Saturday in the capital, Kinshasa. More than 64,000 people cross the border there each day, he said.

Johnson & Johnson will progressively ship about 200,000 doses of the vaccine to Rwanda and another 500,000 to Congo starting Oct. 18, Muyembe said.

"Our goal is to create an immunological curtain that will prevent the virus from leaving the infected zone to the uninfected zone," he said.

The Ebola outbreak, which was first announced in August 2018, has killed 2,146 people as of Oct. 10. Another vaccine manufactured by Merck & Co., has already been given to more than 230,000 people since August 2018.

---

**From:** Kerr, Lawrence (HHS/OS/OGA)

**Sent:** Sunday, October 13, 2019 10:27 AM



**To:** Boucher, David (OS/ASPR/BARDA) <David.Boucher@hhs.gov>; Zarrabian, Amanda (OS/ASPR/BARDA) <amanda.zarrabian@hhs.gov>; Ayala, Ana (OS/ASPR/SPPR) <Ana.Ayala@hhs.gov>; Biggins, Julia E CTR (USA) <julia.e.biggins.ctr@mail.mil>; Birnkrant, Debra B (FDA/CDER) <Debra.Birnkrant@fda.hhs.gov>; Carter, Rosalind J. (CDC/DDPHSIS/CGH/GID) <rdc6@cdc.gov>; Cho, David S (CBER) (FDA/CBER) <David.Cho@fda.hhs.gov>; Cossaboom, Caitlin (CDC/DDID/NCEZID/DHCPP) <nrm9@cdc.gov>; Wolfe, Daniel (OS/ASPR/BARDA) <Daniel.Wolfe2@hhs.gov>; Deussing, Eric (CDC/OD/OCS) <ncu0@cdc.gov>; Diaz-Diaz, Carol (OS/ASPR/BARDA) <Carol.Diaz-diaz@hhs.gov>; Disbrow, Gary (OS/ASPR/BARDA) <Gary.Disbrow@hhs.gov>; Higgs, Elizabeth (NIH/NIAID) [E] <ehiggs@niaid.nih.gov>; Fitter, David L. (CDC/DDPHSIS/CGH/GID) <vid3@cdc.gov>; Gentles, Andrew (FDA/CDER) <Andrew.Gentles@fda.hhs.gov>; Hassell, David (Chris) (OS/ASPR/IO) <David.Hassell@hhs.gov>; Schiltz, Helen (NIH/NIAID) [E] <hschiltz@niaid.nih.gov>; Marston, Hilary (NIH/NIAID) [E] <hilary.marston@nih.gov>; Hughes, Craig (OS/ASPR/BARDA) <Craig.Hughes@hhs.gov>; Damon, Inger K. (CDC/DDID/NCEZID/DHCPP) <iad7@cdc.gov>; Inger-Marie Vilcins (ivilcins@hivresearch.org) <ivilcins@hivresearch.org>; Walldorf, Jenny A. (CDC/DDPHSIS/CGH/GID) <igf4@cdc.gov>; Kahn, Emily B. (CDC/DDID/NCEZID/DPEI) <ebk9@cdc.gov>; Bok, Karin (NIH/VRC) [E] <karin.bok@nih.gov>; Kayvon Modjarrad <kmodjarrad@hivresearch.org>; Kishimori, Jennifer M COL USARMY OSD OUSD P-R (US) (jennifer.m.kishimori.mil@mail.mil) <jennifer.m.kishimori.mil@mail.mil>; Ledgerwood, Julie (NIH/NIAID) [E] <JUMARTIN@niaid.nih.gov>; Marinissen, Maria (HHS/OS/OGA) <Maria.Marinissen@hhs.gov>; Gruber, Marion (FDA/CBER) <Marion.Gruber@fda.hhs.gov>; Marks, Peter (FDA/CBER) <Peter.Marks@fda.hhs.gov>; Meltzer, Martin I. (CDC/DDID/NCEZID/DPEI) <qzm4@cdc.gov>; Choi, Mary Joung (CDC/DDID/NCEZID/DHCPP) <whz2@cdc.gov>; Merchlinsky, Michael (OS/ASPR/BARDA) <Michael.Merchlinsky@hhs.gov>; Mair, Michael (FDA/OC) <Michael.Mair@fda.hhs.gov>; Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) <ztq9@cdc.gov>; Moudy, Robin (OS/ASPR/SPPR) <Robin.Moudy@hhs.gov>; Nelson Michael <nmichael@hivresearch.org>; Bryant, Paula (NIH/NIAID) [E] <paula.bryant@nih.gov>; Pawlicki, Nathan J CTR DHA MED COUNTERMEASURES (US) (nathan.j.pawlicki.ctr@mail.mil) <nathan.j.pawlicki.ctr@mail.mil>; Krause, Philip (FDA/CBER) <Philip.Krause@fda.hhs.gov>; Arthur, Ray (CDC/DDPHSIS/CGH/DGHP) <rca8@cdc.gov>; Helfand, Rita (CDC/DDID/NCEZID/OD) <rz7@cdc.gov>; Sabourin, Carol (OS/ASPR/BARDA) <Carol.Sabourin@hhs.gov>; Samuel, Anita (CDC/DDPHSIS/CGH/GID) <kyp8@cdc.gov>; Simon, David (OS/ASPR/BARDA) <David.Simon@hhs.gov>; Styrt, Barbara (FDA/CDER) <Barbara.Styrt@fda.hhs.gov>; Suzanne Mate <suzanne.e.mate.mil@mail.mil>; Taylor, Kimberly (NIH/NIAID) [E] <kimberly.taylor3@nih.gov>; Taylor, Marva (OS/ASPR/BARDA) <Marva.Taylor@hhs.gov>; Hyde, Terri (CDC/DDPHSIS/CGH/GID) <tkh4@cdc.gov>; Thompson, Elizabeth (FDA/CDER) <Elizabeth.Thompson@fda.hhs.gov>; Turley, Danielle (OS/ASPR/BARDA) <Danielle.Turley@hhs.gov>; Walke, Henry (CDC/DDID/NCEZID/DPEI) <hfw3@cdc.gov>; Walker, Robert (OS/ASPR/BARDA) <Robert.Walker@hhs.gov>; Weinberger, Collin (OS/OGA) (CTR) <Collin.Weinberger@hhs.gov>; Yu, Yon C. (CDC/DDID/NCEZID/DPEI) <fkb8@cdc.gov>

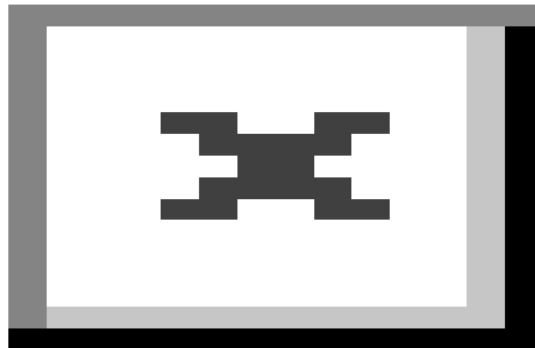
**Subject:** RE: Ebola MCM Scientific WG - Agenda (10/8)

Just out:

## Rwanda planning massive vaccination campaign against Ebola



James Karuhanga By  
[James Karuhanga](#)



<https://www.newtimes.co.rw/sites/default/files/styles/mystyle/public/main/articles/2019/10/12/dr-diane-gashumba.jpg>

Dr Diane Gashumba, the Minister for Health, speaks at a recent meeting. / Sam Ngendahimana

Rwanda is planning a big vaccination campaign against the Ebola Virus Disease (EBV) for adults, adolescents, and children aged two years living within the vicinity of a possible Ebola outbreak.

A statement released after Thursday's Cabinet meeting indicates that the Minister of Health, Dr. Diane Gashumba, informed the Cabinet about this development.

By press time Saturday, however, efforts to get details such as when the campaign could start, how many people would be vaccinated, and what vaccine is to be used, from the Minister or media officers under the Ministry were futile.

The latest reports indicate that international efforts to halt the Ebola epidemic in DR Congo have made significant progress, with the virus now contained to a much smaller geographical area that is mainly rural in the east of the country.

The latest Ebola epidemic in the country began in August 2018 and it has killed 2,144 people, so far, according to the World Health Organisation.

In August, Rwanda started talks to acquire at least 100,000 doses of an Ebola vaccine for a mass vaccination campaign. At the time, the Ministry of Health confirmed that the government was fast-tracking negotiations to buy doses of an Ebola vaccine.

Malick Kayumba, the Spokesperson of the Ministry of Health confirmed recently that the deal was still under negotiations, and stressed that Rwanda was "ready to do whatever is possible to protect its citizens."

The BBC reported sometime back that more than 60,000 traders in eastern DR Congo who cross the border regularly into Rwanda and Uganda are to be vaccinated.

It was not clear when exactly the mass vaccination campaign would start and the cost associated as well as the type of vaccine to be used but media reports then suggested that the experimental vaccine was backed by international health experts, including the World Health Organisation.

The vaccine in question, the BBC reported, is produced by Johnson & Johnson, American multinational medical devices, pharmaceutical, and is different from the single-dose Merck vaccine that has been used

over the past year in DR Congo.

The World Health Organisation Director-General, Dr. Tedros Adhanom Ghebreyesus in August announced that they had an Ebola vaccine that is more than 97 percent effective and treatments that are more than 90 percent effective if used early enough.

Earlier, the UN health agency had announced that the co-sponsors of the Ebola therapeutics trial in DR Congo had announced advances that will bring patients a better chance of survival. Two out of the four drugs being tested were found to be effective in treating Ebola.

No case of Ebola has been reported in Rwanda but the government intensified preventive measures soon after the outbreak in DR Congo was confirmed.

In July, the WHO declared the Ebola crisis in the DR Congo a public health emergency of international concern (PHEIC), urging the international community to step up its support for a response.

The PHEIC is a formal declaration by the UN agency in charge of world health matters of an extraordinary event which is determined to constitute a public health risk to other States through the international spread of disease.

In August, Rwanda and DR Congo Health Ministers set up joint strategies to prevent the spread of Ebola.

---

**From:** Boucher, David (OS/ASPR/BARDA) <[David.Boucher@hhs.gov](mailto:David.Boucher@hhs.gov)>

**Sent:** Tuesday, October 8, 2019 10:22 AM

**To:** Zarrabian, Amanda (OS/ASPR/BARDA) <[amanda.zarrabian@hhs.gov](mailto:amanda.zarrabian@hhs.gov)>; Ayala, Ana (OS/ASPR/SPPR) <[Ana.Ayala@hhs.gov](mailto:Ana.Ayala@hhs.gov)>; Biggins, Julia E CTR (USA) <[julia.e.biggins.ctr@mail.mil](mailto:julia.e.biggins.ctr@mail.mil)>; Birnkrant, Debra B (FDA/CDER) <[Debra.Birnkrant@fda.hhs.gov](mailto:Debra.Birnkrant@fda.hhs.gov)>; Carter, Rosalind J. (CDC/DDPHSIS/CGH/GID) <[rdoc6@cdc.gov](mailto:rdoc6@cdc.gov)>; Cho, David S (CBER) (FDA/CBER) <[David.Cho@fda.hhs.gov](mailto:David.Cho@fda.hhs.gov)>; Cossaboom, Caitlin (CDC/DDID/NCEZID/DHCPP) <[nrm9@cdc.gov](mailto:nrm9@cdc.gov)>; Wolfe, Daniel (OS/ASPR/BARDA) <[Daniel.Wolfe2@hhs.gov](mailto:Daniel.Wolfe2@hhs.gov)>; Deussing, Eric (CDC/OD/OCS) <[ncu0@cdc.gov](mailto:ncu0@cdc.gov)>; Diaz-Diaz, Carol (OS/ASPR/BARDA) <[Carol.Diaz-diaz@hhs.gov](mailto:Carol.Diaz-diaz@hhs.gov)>; Disbrow, Gary (OS/ASPR/BARDA) <[Gary.Disbrow@hhs.gov](mailto:Gary.Disbrow@hhs.gov)>; Higgs, Elizabeth (NIH/NIAID) [E] <[ehiggs@niaid.nih.gov](mailto:ehiggs@niaid.nih.gov)>; Fitter, David L. (CDC/DDPHSIS/CGH/GID) <[vid3@cdc.gov](mailto:vid3@cdc.gov)>; Gentles, Andrew (FDA/CDER) <[Andrew.Gentles@fda.hhs.gov](mailto:Andrew.Gentles@fda.hhs.gov)>; Hassell, David (Chris) (OS/ASPR/IO) <[David.Hassell@hhs.gov](mailto:David.Hassell@hhs.gov)>; Schiltz, Helen (NIH/NIAID) [E] <[hschiltz@niaid.nih.gov](mailto:hschiltz@niaid.nih.gov)>; Marston, Hilary (NIH/NIAID) [E] <[hilary.marston@nih.gov](mailto:hilary.marston@nih.gov)>; Hughes, Craig (OS/ASPR/BARDA) <[Craig.Hughes@hhs.gov](mailto:Craig.Hughes@hhs.gov)>; Damon, Inger K. (CDC/DDID/NCEZID/DHCPP) <[iad7@cdc.gov](mailto:iad7@cdc.gov)>; Inger-Marie Vilcins ([ivilcins@hivresearch.org](mailto:ivilcins@hivresearch.org)) <[ivilcins@hivresearch.org](mailto:ivilcins@hivresearch.org)>; Walldorf, Jenny A. (CDC/DDPHSIS/CGH/GID) <[igf4@cdc.gov](mailto:igf4@cdc.gov)>; Kahn, Emily B. (CDC/DDID/NCEZID/DPEI) <[ebk9@cdc.gov](mailto:ebk9@cdc.gov)>; Bok, Karin (NIH/VRC) [E] <[karin.bok@nih.gov](mailto:karin.bok@nih.gov)>; Kayvon Modjarrad <[kmodjarrad@hivresearch.org](mailto:kmodjarrad@hivresearch.org)>; Kishimori, Jennifer M COL USARMY OSD OUSD P-R (US) ([jennifer.m.kishimori.mil@mail.mil](mailto:jennifer.m.kishimori.mil@mail.mil)) <[jennifer.m.kishimori.mil@mail.mil](mailto:jennifer.m.kishimori.mil@mail.mil)>; Kerr, Lawrence (HHS/OS/OGA) <[Lawrence.Kerr@hhs.gov](mailto:Lawrence.Kerr@hhs.gov)>; Ledgerwood, Julie (NIH/NIAID) [E] <[jumartin@niaid.nih.gov](mailto:jumartin@niaid.nih.gov)>; Marinissen, Maria (HHS/OS/OGA) <[Maria.Marinissen@hhs.gov](mailto:Maria.Marinissen@hhs.gov)>; Gruber, Marion (FDA/CBER) <[Marion.Gruber@fda.hhs.gov](mailto:Marion.Gruber@fda.hhs.gov)>; Marks, Peter (FDA/CBER) <[Peter.Marks@fda.hhs.gov](mailto:Peter.Marks@fda.hhs.gov)>; Meltzer, Martin I. (CDC/DDID/NCEZID/DPEI) <[qzm4@cdc.gov](mailto:qzm4@cdc.gov)>; Choi, Mary Joung (CDC/DDID/NCEZID/DHCPP) <[whz2@cdc.gov](mailto:whz2@cdc.gov)>; Merchlinsky, Michael (OS/ASPR/BARDA) <[Michael.Merchlinsky@hhs.gov](mailto:Michael.Merchlinsky@hhs.gov)>; Mair, Michael (FDA/OC) <[Michael.Mair@fda.hhs.gov](mailto:Michael.Mair@fda.hhs.gov)>; Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) <[ztq9@cdc.gov](mailto:ztq9@cdc.gov)>; Moudy, Robin (OS/ASPR/SPPR) <[Robin.Moudy@hhs.gov](mailto:Robin.Moudy@hhs.gov)>; Nelson Michael <[nmichael@hivresearch.org](mailto:nmichael@hivresearch.org)>; Bryant, Paula (NIH/NIAID) [E] <[paula.bryant@nih.gov](mailto:paula.bryant@nih.gov)>; Pawlicki, Nathan J CTR DHA MED COUNTERMEASURES (US) ([nathan.j.pawlicki.ctr@mail.mil](mailto:nathan.j.pawlicki.ctr@mail.mil)) <[nathan.j.pawlicki.ctr@mail.mil](mailto:nathan.j.pawlicki.ctr@mail.mil)>; Krause, Philip (FDA/CBER) <[Philip.Krause@fda.hhs.gov](mailto:Philip.Krause@fda.hhs.gov)>; Arthur, Ray

(CDC/DDPHSIS/CGH/DGHP) <[rca8@cdc.gov](mailto:rca8@cdc.gov)>; Helfand, Rita (CDC/DDID/NCEZID/OD) <[rz7@cdc.gov](mailto:rz7@cdc.gov)>; Sabourin, Carol (OS/ASPR/BARDA) <[Carol.Sabourin@hhs.gov](mailto:Carol.Sabourin@hhs.gov)>; Samuel, Anita (CDC/DDPHSIS/CGH/GID) <[kyp8@cdc.gov](mailto:kyp8@cdc.gov)>; Simon, David (OS/ASPR/BARDA) <[David.Simon@hhs.gov](mailto:David.Simon@hhs.gov)>; Styrt, Barbara (FDA/CDER) <[Barbara.Styrt@fda.hhs.gov](mailto:Barbara.Styrt@fda.hhs.gov)>; Suzanne Mate <[suzanne.e.mate.mil@mail.mil](mailto:suzanne.e.mate.mil@mail.mil)>; Taylor, Kimberly (NIH/NIAID) [E] <[kimberly.taylor3@nih.gov](mailto:kimberly.taylor3@nih.gov)>; Taylor, Marva (OS/ASPR/BARDA) <[Marva.Taylor@hhs.gov](mailto:Marva.Taylor@hhs.gov)>; Hyde, Terri (CDC/DDPHSIS/CGH/GID) <[tkh4@cdc.gov](mailto:tkh4@cdc.gov)>; Thompson, Elizabeth (FDA/CDER) <[Elizabeth.Thompson@fda.hhs.gov](mailto:Elizabeth.Thompson@fda.hhs.gov)>; Turley, Danielle (OS/ASPR/BARDA) <[Danielle.Turley@hhs.gov](mailto:Danielle.Turley@hhs.gov)>; Walke, Henry (CDC/DDID/NCEZID/DPEI) <[hfw3@cdc.gov](mailto:hfw3@cdc.gov)>; Walker, Robert (OS/ASPR/BARDA) <[Robert.Walker@hhs.gov](mailto:Robert.Walker@hhs.gov)>; Weinberger, Collin (OS/OGA) (CTR) <[Collin.Weinberger@hhs.gov](mailto:Collin.Weinberger@hhs.gov)>; Yu, Yon C. (CDC/DDID/NCEZID/DPEI) <[fbk8@cdc.gov](mailto:fbk8@cdc.gov)>  
**Subject:** RE: Ebola MCM Scientific WG - Agenda (10/8)

Sorry, I lied about that being my last e-mail. Would be helpful if you had the link to the webex which is:

(b)(6)

Only going to be sharing the docs that have already been sent out so you won't miss anything if you'd rather not join the webex.

David

---

**From:** Boucher, David (OS/ASPR/BARDA)  
**Sent:** Tuesday, October 8, 2019 10:08 AM  
**To:** Amanda Zarrabian (OS/ASPR/BARDA) ([amanda.zarrabian@hhs.gov](mailto:amanda.zarrabian@hhs.gov)) <[amanda.zarrabian@hhs.gov](mailto:amanda.zarrabian@hhs.gov)>; Ayala, Ana (OS/ASPR/SPPR) <[Ana.Ayala@hhs.gov](mailto:Ana.Ayala@hhs.gov)>; Biggins, Julia E CTR (USA) <[julia.e.biggins.ctr@mail.mil](mailto:julia.e.biggins.ctr@mail.mil)>; Birnkrant, Debra B (FDA/CDER) <[Debra.Birnkrant@fda.hhs.gov](mailto:Debra.Birnkrant@fda.hhs.gov)>; Carter, Rosalind J. (CDC/DDPHSIS/CGH/GID) ([rdc6@cdc.gov](mailto:rdc6@cdc.gov)) <[rdc6@cdc.gov](mailto:rdc6@cdc.gov)>; Cho, David S (CBER) (FDA/CBER) <[David.Cho@fda.hhs.gov](mailto:David.Cho@fda.hhs.gov)>; Cossaboom, Caitlin (CDC/DDID/NCEZID/DHCPP) <[nrm9@cdc.gov](mailto:nrm9@cdc.gov)>; Daniel Wolfe (OS/ASPR/BARDA) ([Daniel.Wolfe2@hhs.gov](mailto:Daniel.Wolfe2@hhs.gov)) <[Daniel.Wolfe2@hhs.gov](mailto:Daniel.Wolfe2@hhs.gov)>; Deussing, Eric (CDC/OD/OCS) <[ncu0@cdc.gov](mailto:ncu0@cdc.gov)>; Diaz-Diaz, Carol (OS/ASPR/BARDA) <[Carol.Diaz-diaz@hhs.gov](mailto:Carol.Diaz-diaz@hhs.gov)>; Disbrow, Gary (OS/ASPR/BARDA) <[Gary.Disbrow@hhs.gov](mailto:Gary.Disbrow@hhs.gov)>; Elizabeth (NIH/NIAID) Higgs [E] ([ehiggs@niaid.nih.gov](mailto:ehiggs@niaid.nih.gov)) <[ehiggs@niaid.nih.gov](mailto:ehiggs@niaid.nih.gov)>; Fitter, David L. (CDC/DDPHSIS/CGH/GID) <[vid3@cdc.gov](mailto:vid3@cdc.gov)>; Gentles, Andrew (FDA/CDER) <[Andrew.Gentles@fda.hhs.gov](mailto:Andrew.Gentles@fda.hhs.gov)>; Hassell, David (Chris) (OS/ASPR/IO) <[David.Hassell@hhs.gov](mailto:David.Hassell@hhs.gov)>; Helen Schiltz ([helen.schiltz@nih.gov](mailto:helen.schiltz@nih.gov)) <[helen.schiltz@nih.gov](mailto:helen.schiltz@nih.gov)>; Hilary (NIH/NIAID) Marston [E] ([hilary.marston@nih.gov](mailto:hilary.marston@nih.gov)) <[hilary.marston@nih.gov](mailto:hilary.marston@nih.gov)>; Hughes, Craig (OS/ASPR/BARDA) <[Craig.Hughes@hhs.gov](mailto:Craig.Hughes@hhs.gov)>; Inger K. Damon (CDC/DDID/NCEZID/DHCPP) ([iad7@cdc.gov](mailto:iad7@cdc.gov)) <[iad7@cdc.gov](mailto:iad7@cdc.gov)>; Inger-Marie Vilcins ([ivilcins@hivresearch.org](mailto:ivilcins@hivresearch.org)) <[ivilcins@hivresearch.org](mailto:ivilcins@hivresearch.org)>; Jenny A. Walldorf (CDC/DDPHSIS/CGH/GID) ([igf4@cdc.gov](mailto:igf4@cdc.gov)) <[igf4@cdc.gov](mailto:igf4@cdc.gov)>; Kahn, Emily B. (CDC/DDID/NCEZID/DPEI) <[ebk9@cdc.gov](mailto:ebk9@cdc.gov)>; Karin (NIH/VRC) Bok [E] ([karin.bok@nih.gov](mailto:karin.bok@nih.gov)) <[karin.bok@nih.gov](mailto:karin.bok@nih.gov)>; Kayvon Modjarrad <[kmodjarrad@hivresearch.org](mailto:kmodjarrad@hivresearch.org)>; Kishimori, Jennifer M COL USARMY OSD OUSD P-R (US) ([jennifer.m.kishimori.mil@mail.mil](mailto:jennifer.m.kishimori.mil@mail.mil)) <[jennifer.m.kishimori.mil@mail.mil](mailto:jennifer.m.kishimori.mil@mail.mil)>; Lawrence Kerr (HHS/OS/OGA) ([Lawrence.Kerr@hhs.gov](mailto:Lawrence.Kerr@hhs.gov)) <[Lawrence.Kerr@hhs.gov](mailto:Lawrence.Kerr@hhs.gov)>; Ledgerwood, Julie (NIH/NIAID) [E] <[JUMARTIN@niaid.nih.gov](mailto:JUMARTIN@niaid.nih.gov)>; Marinissen, Maria (HHS/OS/OGA) <[Maria.Marinissen@hhs.gov](mailto:Maria.Marinissen@hhs.gov)>; Marion Gruber (FDA/CBER) ([Marion.Gruber@fda.hhs.gov](mailto:Marion.Gruber@fda.hhs.gov)) <[Marion.Gruber@fda.hhs.gov](mailto:Marion.Gruber@fda.hhs.gov)>; Marks, Peter (FDA/CBER) <[Peter.Marks@fda.hhs.gov](mailto:Peter.Marks@fda.hhs.gov)>; Martin I. Meltzer (CDC/DDID/NCEZID/DPEI) ([qzm4@cdc.gov](mailto:qzm4@cdc.gov)) <[qzm4@cdc.gov](mailto:qzm4@cdc.gov)>; Mary Joung Choi (CDC/DDID/NCEZID/DHCPP) ([whz2@cdc.gov](mailto:whz2@cdc.gov)) <[whz2@cdc.gov](mailto:whz2@cdc.gov)>; Merchlinsky, Michael (OS/ASPR/BARDA)

<Michael.Merchlinsky@hhs.gov>; Michael Mair (FDA/OC) (Michael.Mair@fda.hhs.gov)  
<Michael.Mair@fda.hhs.gov>; Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) <zttq9@cdc.gov>;  
Moudy, Robin (OS/ASPR/SPPR) <Robin.Moudy@hhs.gov>; Nelson Michael <nmichael@hivresearch.org>;  
Paula (NIH/NIAID) Bryant [E] (paula.bryant@nih.gov) <paula.bryant@nih.gov>; Pawlicki, Nathan J CTR  
DHA MED COUNTERMEASURES (US) (nathan.j.pawlicki.ctr@mail.mil) <nathan.j.pawlicki.ctr@mail.mil>;  
Philip Krause (FDA/CBER) (Philip.Krause@fda.hhs.gov) <Philip.Krause@fda.hhs.gov>; Ray Arthur  
(CDC/DDPHSIS/CGH/DGHP) (rca8@cdc.gov) <rca8@cdc.gov>; Rita Helfand (CDC/DDID/NCEZID/OD)  
(rzh7@cdc.gov) <rzh7@cdc.gov>; Sabourin, Carol (OS/ASPR/BARDA) <Carol.Sabourin@hhs.gov>;  
Samuel, Anita (CDC/DDPHSIS/CGH/GID) <kyp8@cdc.gov>; Simon, David (OS/ASPR/BARDA)  
<David.Simon@hhs.gov>; Styrt, Barbara (FDA/CDER) <Barbara.Styrt@fda.hhs.gov>; Suzanne Mate  
<suzanne.e.mate.mil@mail.mil>; Taylor, Kimberly (NIH/NIAID) [E] <kimberly.taylor3@nih.gov>; Taylor,  
Marva (OS/ASPR/BARDA) <Marva.Taylor@hhs.gov>; Terri Hyde (CDC/DDPHSIS/CGH/GID)  
(tkh4@cdc.gov) <tkh4@cdc.gov>; Thompson, Elizabeth (FDA/CDER)  
<Elizabeth.Thompson@fda.hhs.gov>; Turley, Danielle (OS/ASPR/BARDA) <Danielle.Turley@hhs.gov>;  
Walke, Henry (CDC/DDID/NCEZID/DPEI) <hfw3@cdc.gov>; Walker, Robert (OS/ASPR/BARDA)  
<Robert.Walker@hhs.gov>; Weinberger, Collin (OS/OGA) (CTR) <Collin.Weinberger@hhs.gov>; Yu, Yon  
C. (CDC/DDID/NCEZID/DPEI) <fkb8@cdc.gov>

**Subject:** RE: Ebola MCM Scientific WG - Agenda (10/8)

Last e-mail from me. I've attached Karin Bok's slides that will go along with the manufacturing slides I sent out earlier this morning. I'll also try to share my screen through webex if you'd like to follow along that way.

David

---

**From:** Boucher, David (OS/ASPR/BARDA)

**Sent:** Tuesday, October 8, 2019 9:07 AM

**To:** Amanda Zarrabian (OS/ASPR/BARDA) (amanda.zarrabian@hhs.gov) <amanda.zarrabian@hhs.gov>;  
Ayala, Ana (OS/ASPR/SPPR) <Ana.Ayala@hhs.gov>; Biggins, Julia E CTR (USA)  
<julia.e.biggins.ctr@mail.mil>; Birnkrant, Debra B (FDA/CDER) <Debra.Birnkrant@fda.hhs.gov>; Carter,  
Rosalind J. (CDC/DDPHSIS/CGH/GID) (rdc6@cdc.gov) <rdc6@cdc.gov>; Cho, David S (CBER) (FDA/CBER)  
<David.Cho@fda.hhs.gov>; Cossaboom, Caitlin (CDC/DDID/NCEZID/DHCPP) <nrm9@cdc.gov>; Daniel  
Wolfe (OS/ASPR/BARDA) (Daniel.Wolfe2@hhs.gov) <Daniel.Wolfe2@hhs.gov>; Deussing, Eric  
(CDC/OD/OCS) <ncu0@cdc.gov>; Diaz-Diaz, Carol (OS/ASPR/BARDA) <Carol.Diaz-diaz@hhs.gov>;  
Disbrow, Gary (OS/ASPR/BARDA) <Gary.Disbrow@hhs.gov>; Elizabeth (NIH/NIAID) Higgs [E]  
(ehiggs@niaid.nih.gov) <ehiggs@niaid.nih.gov>; Fitter, David L. (CDC/DDPHSIS/CGH/GID)  
<vid3@cdc.gov>; Gentles, Andrew (FDA/CDER) <Andrew.Gentles@fda.hhs.gov>; Hassell, David (Chris)  
(OS/ASPR/IO) <David.Hassell@hhs.gov>; Helen Schiltz (helen.schiltz@nih.gov) <helen.schiltz@nih.gov>;  
Hilary (NIH/NIAID) Marston [E] (hilary.marston@nih.gov) <hilary.marston@nih.gov>; Hughes, Craig  
(OS/ASPR/BARDA) <Craig.Hughes@hhs.gov>; Inger K. Damon (CDC/DDID/NCEZID/DHCPP)  
(iad7@cdc.gov) <iad7@cdc.gov>; Inger-Marie Vilcins (ivilcins@hivresearch.org)  
<ivilcins@hivresearch.org>; Jenny A. Walldorf (CDC/DDPHSIS/CGH/GID) (igf4@cdc.gov) <igf4@cdc.gov>;  
Kahn, Emily B. (CDC/DDID/NCEZID/DPEI) <ebk9@cdc.gov>; Karin (NIH/VRC) Bok [E] (karin.bok@nih.gov)  
<karin.bok@nih.gov>; Kayvon Modjarrad <kmodjarrad@hivresearch.org>; Kishimori, Jennifer M COL  
USARMY OSD OUSD P-R (US) (jennifer.m.kishimori.mil@mail.mil) <jennifer.m.kishimori.mil@mail.mil>;  
Lawrence Kerr (HHS/OS/OGA) (Lawrence.Kerr@hhs.gov) <Lawrence.Kerr@hhs.gov>; Ledgerwood, Julie  
(NIH/NIAID) [E] <JUMARTIN@niaid.nih.gov>; Marinissen, Maria (HHS/OS/OGA)

<Maria.Marinissen@hhs.gov>; Marion Gruber (FDA/CBER) (<Marion.Gruber@fda.hhs.gov>  
<Marion.Gruber@fda.hhs.gov>; Marks, Peter (FDA/CBER) (<Peter.Marks@fda.hhs.gov>; Martin I. Meltzer  
(CDC/DDID/NCEZID/DPEI) (<qzm4@cdc.gov> <qzm4@cdc.gov>; Mary Joung Choi  
(CDC/DDID/NCEZID/DHCPP) (<whz2@cdc.gov> <whz2@cdc.gov>; Merchlinsky, Michael (OS/ASPR/BARDA)  
<Michael.Merchlinsky@hhs.gov>; Michael Mair (FDA/OC) (<Michael.Mair@fda.hhs.gov>  
<Michael.Mair@fda.hhs.gov>; Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) (<ztd9@cdc.gov>;  
Moudy, Robin (OS/ASPR/SPPR) (<Robin.Moudy@hhs.gov>; Nelson Michael (<nrmichael@hivresearch.org>;  
Paula (NIH/NIAID) Bryant [E] (<paula.bryant@nih.gov> <paula.bryant@nih.gov>; Pawlicki, Nathan J CTR  
DHA MED COUNTERMEASURES (US) (<nathan.j.pawlicki.ctr@mail.nih.gov> <nathan.j.pawlicki.ctr@mail.nih.gov>;  
Philip Krause (FDA/CBER) (<Philip.Krause@fda.hhs.gov> <Philip.Krause@fda.hhs.gov>; Ray Arthur  
(CDC/DDPHSIS/CGH/DGHP) (<rca8@cdc.gov> <rca8@cdc.gov>; Rita Helfand (CDC/DDID/NCEZID/OD)  
(<rh7@cdc.gov> <rh7@cdc.gov>; Sabourin, Carol (OS/ASPR/BARDA) (<Carol.Sabourin@hhs.gov>;  
Samuel, Anita (CDC/DDPHSIS/CGH/GID) (<kyp8@cdc.gov>; Simon, David (OS/ASPR/BARDA)  
<David.Simon@hhs.gov>; Styrt, Barbara (FDA/CDER) (<Barbara.Styrt@fda.hhs.gov>; Suzanne Mate  
<suzanne.e.mate@mail.nih.gov>; Taylor, Kimberly (NIH/NIAID) [E] (<kimberly.taylor3@nih.gov>; Taylor,  
Marva (OS/ASPR/BARDA) (<Marva.Taylor@hhs.gov>; Terri Hyde (CDC/DDPHSIS/CGH/GID)  
(<tkh4@cdc.gov> <tkh4@cdc.gov>; Thompson, Elizabeth (FDA/CDER)  
<Elizabeth.Thompson@fda.hhs.gov>; Turley, Danielle (OS/ASPR/BARDA) (<Danielle.Turley@hhs.gov>;  
Walke, Henry (CDC/DDID/NCEZID/DPEI) (<hfw3@cdc.gov>; Walker, Robert (OS/ASPR/BARDA)  
<Robert.Walker@hhs.gov>; Weinberger, Collin (OS/OGA) (CTR) (<Collin.Weinberger@hhs.gov>; Yu, Yon  
C. (CDC/DDID/NCEZID/DPEI) (<fkb8@cdc.gov>

**Subject:** RE: Ebola MCM Scientific WG - Agenda (10/8)

Good morning, everyone. I've attached an updated version of the slide deck I sent last night. Couple of updates, couple of date errors corrected.

David

---

**From:** Boucher, David (OS/ASPR/BARDA)

**Sent:** Monday, October 7, 2019 9:21 PM

**To:** Amanda Zarrabian (OS/ASPR/BARDA) (<amanda.zarrabian@hhs.gov> <amanda.zarrabian@hhs.gov>;  
Ayala, Ana (OS/ASPR/SPPR) (<Ana.Ayala@hhs.gov>; Biggins, Julia E CTR (USA)  
<julia.e.biggins.ctr@mail.nih.gov>; Birnkrant, Debra B (FDA/CDER) (<Debra.Birnkrant@fda.hhs.gov>; Carter,  
Rosalind J. (CDC/DDPHSIS/CGH/GID) (<rdc6@cdc.gov> <rdc6@cdc.gov>; Cho, David S (CBER) (FDA/CBER)  
<David.Cho@fda.hhs.gov>; Cossaboom, Caitlin (CDC/DDID/NCEZID/DHCPP) (<nrm9@cdc.gov>; Daniel  
Wolfe (OS/ASPR/BARDA) (<Daniel.Wolfe2@hhs.gov> <Daniel.Wolfe2@hhs.gov>; Deussing, Eric  
(CDC/OD/OCS) (<ncu0@cdc.gov>; Diaz-Diaz, Carol (OS/ASPR/BARDA) (<Carol.Diaz-diaz@hhs.gov>;  
Disbrow, Gary (OS/ASPR/BARDA) (<Gary.Disbrow@hhs.gov>; Elizabeth (NIH/NIAID) Higgs [E]  
(<ehiggs@niaid.nih.gov> <ehiggs@niaid.nih.gov>; Fitter, David L. (CDC/DDPHSIS/CGH/GID)  
<vid3@cdc.gov>; Gentles, Andrew (FDA/CDER) (<Andrew.Gentles@fda.hhs.gov>; Hassell, David (Chris)  
(OS/ASPR/IO) (<David.Hassell@hhs.gov>; Helen Schiltz (<helen.schiltz@nih.gov> <helen.schiltz@nih.gov>;  
Hilary (NIH/NIAID) Marston [E] (<hilary.marston@nih.gov> <hilary.marston@nih.gov>; Hughes, Craig  
(OS/ASPR/BARDA) (<Craig.Hughes@hhs.gov>; Inger K. Damon (CDC/DDID/NCEZID/DHCPP)  
(<iad7@cdc.gov> <iad7@cdc.gov>; Inger-Marie Vilcins (<ivilcins@hivresearch.org>  
<ivilcins@hivresearch.org>; Jenny A. Walldorf (CDC/DDPHSIS/CGH/GID) (<igf4@cdc.gov> <igf4@cdc.gov>;  
Kahn, Emily B. (CDC/DDID/NCEZID/DPEI) (<ebk9@cdc.gov>; Karin (NIH/VR) Bok [E] (<karin.bok@nih.gov>  
<karin.bok@nih.gov>; Kayvon Modjarrad (<kmodjarrad@hivresearch.org>; Kishimori, Jennifer M COL

USARMY OSD OUSD P-R (US) ([jennifer.m.kishimori.mil@mail.mil](mailto:jennifer.m.kishimori.mil@mail.mil)) <[jennifer.m.kishimori.mil@mail.mil](mailto:jennifer.m.kishimori.mil@mail.mil)>; Lawrence Kerr (HHS/OS/OGA) ([Lawrence.Kerr@hhs.gov](mailto:Lawrence.Kerr@hhs.gov)) <[Lawrence.Kerr@hhs.gov](mailto:Lawrence.Kerr@hhs.gov)>; Ledgerwood, Julie (NIH/NIAID) [E] <[JUMARTIN@niaid.nih.gov](mailto:JUMARTIN@niaid.nih.gov)>; Marinissen, Maria (HHS/OS/OGA) <[Maria.Marinissen@hhs.gov](mailto:Maria.Marinissen@hhs.gov)>; Marion Gruber (FDA/CBER) ([Marion.Gruber@fda.hhs.gov](mailto:Marion.Gruber@fda.hhs.gov)) <[Marion.Gruber@fda.hhs.gov](mailto:Marion.Gruber@fda.hhs.gov)>; Marks, Peter (FDA/CBER) <[Peter.Marks@fda.hhs.gov](mailto:Peter.Marks@fda.hhs.gov)>; Martin I. Meltzer (CDC/DDID/NCEZID/DPEI) ([qzm4@cdc.gov](mailto:qzm4@cdc.gov)) <[qzm4@cdc.gov](mailto:qzm4@cdc.gov)>; Mary Joung Choi (CDC/DDID/NCEZID/DHCPP) ([whz2@cdc.gov](mailto:whz2@cdc.gov)) <[whz2@cdc.gov](mailto:whz2@cdc.gov)>; Merchlinsky, Michael (OS/ASPR/BARDA) <[Michael.Merchlinsky@hhs.gov](mailto:Michael.Merchlinsky@hhs.gov)>; Michael Mair (FDA/OC) ([Michael.Mair@fda.hhs.gov](mailto:Michael.Mair@fda.hhs.gov)) <[Michael.Mair@fda.hhs.gov](mailto:Michael.Mair@fda.hhs.gov)>; Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) <[ztq9@cdc.gov](mailto:ztq9@cdc.gov)>; Moudy, Robin (OS/ASPR/SPPR) <[Robin.Moudy@hhs.gov](mailto:Robin.Moudy@hhs.gov)>; Nelson Michael <[nmichael@hivresearch.org](mailto:nmichael@hivresearch.org)>; Paula (NIH/NIAID) Bryant [E] ([paula.bryant@nih.gov](mailto:paula.bryant@nih.gov)) <[paula.bryant@nih.gov](mailto:paula.bryant@nih.gov)>; Pawlicki, Nathan J CTR DHA MED COUNTERMEASURES (US) ([nathan.j.pawlicki.ctr@mail.mil](mailto:nathan.j.pawlicki.ctr@mail.mil)) <[nathan.j.pawlicki.ctr@mail.mil](mailto:nathan.j.pawlicki.ctr@mail.mil)>; Philip Krause (FDA/CBER) ([Philip.Krause@fda.hhs.gov](mailto:Philip.Krause@fda.hhs.gov)) <[Philip.Krause@fda.hhs.gov](mailto:Philip.Krause@fda.hhs.gov)>; Ray Arthur (CDC/DDPHSIS/CGH/DGHP) ([rca8@cdc.gov](mailto:rca8@cdc.gov)) <[rca8@cdc.gov](mailto:rca8@cdc.gov)>; Rita Helfand (CDC/DDID/NCEZID/OD) ([rz7@cdc.gov](mailto:rz7@cdc.gov)) <[rz7@cdc.gov](mailto:rz7@cdc.gov)>; Sabourin, Carol (OS/ASPR/BARDA) <[Carol.Sabourin@hhs.gov](mailto:Carol.Sabourin@hhs.gov)>; Samuel, Anita (CDC/DDPHSIS/CGH/GID) <[kyp8@cdc.gov](mailto:kyp8@cdc.gov)>; Simon, David (OS/ASPR/BARDA) <[David.Simon@hhs.gov](mailto:David.Simon@hhs.gov)>; Styrt, Barbara (FDA/CDER) <[Barbara.Styrt@fda.hhs.gov](mailto:Barbara.Styrt@fda.hhs.gov)>; Suzanne Mate <[suzanne.e.mate.mil@mail.mil](mailto:suzanne.e.mate.mil@mail.mil)>; Taylor, Kimberly (NIH/NIAID) [E] <[kimberly.taylor3@nih.gov](mailto:kimberly.taylor3@nih.gov)>; Taylor, Marva (OS/ASPR/BARDA) <[Marva.Taylor@hhs.gov](mailto:Marva.Taylor@hhs.gov)>; Terri Hyde (CDC/DDPHSIS/CGH/GID) ([tkh4@cdc.gov](mailto:tkh4@cdc.gov)) <[tkh4@cdc.gov](mailto:tkh4@cdc.gov)>; Thompson, Elizabeth (FDA/CDER) <[Elizabeth.Thompson@fda.hhs.gov](mailto:Elizabeth.Thompson@fda.hhs.gov)>; Turley, Danielle (OS/ASPR/BARDA) <[Danielle.Turley@hhs.gov](mailto:Danielle.Turley@hhs.gov)>; Walke, Henry (CDC/DDID/NCEZID/DPEI) <[hfw3@cdc.gov](mailto:hfw3@cdc.gov)>; Walker, Robert (OS/ASPR/BARDA) <[Robert.Walker@hhs.gov](mailto:Robert.Walker@hhs.gov)>; Weinberger, Collin (OS/OGA) (CTR) <[Collin.Weinberger@hhs.gov](mailto:Collin.Weinberger@hhs.gov)>; Yu, Yon C. (CDC/DDID/NCEZID/DPEI) <[fkb8@cdc.gov](mailto:fkb8@cdc.gov)>

**Subject:** RE: Ebola MCM Scientific WG - Agenda (10/8)

Hello, everyone. I've attached a couple of documents for tomorrow's discussion.

For the first topic (manufacturing timelines), I've attached a brief deck summarizing the scheduled manufacturing of REGN-EB3 and mAb114 that is being supported by BARDA contracts. This was put together a couple of weeks ago obviously, but it is still an accurate summary of the current manufacturing schedule and the projected adds to the clinical supplies of REGN-EB3 and mAb114.

Second is a paper drafted by CDC that provides background and opens the discussion up for a potential recommendation that 16,000 1mL doses of the Merck vaccine be made available to Uganda, Rwanda and South Sudan. This discussion will be led by Rosalind Carter and Anita Samuel during the second half of tomorrow's meeting.

Thanks again and talk to you soon.

David

---

**From:** Boucher, David (OS/ASPR/BARDA)

**Sent:** Monday, October 7, 2019 9:23 AM

**To:** Amanda Zarrabian (OS/ASPR/BARDA) ([amanda.zarrabian@hhs.gov](mailto:amanda.zarrabian@hhs.gov)) <[amanda.zarrabian@hhs.gov](mailto:amanda.zarrabian@hhs.gov)>;

Ayala, Ana (OS/ASPR/SPPR) <[Ana.Ayala@hhs.gov](mailto:Ana.Ayala@hhs.gov)>; Birnkrant, Debra B (FDA/CDER)

<[Debra.Birnkrant@fda.hhs.gov](mailto:Debra.Birnkrant@fda.hhs.gov)>; Carter, Rosalind J. (CDC/DDPHSIS/CGH/GID) ([rdc6@cdc.gov](mailto:rdc6@cdc.gov))



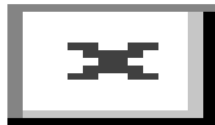
[<rdc6@cdc.gov>](mailto:rdc6@cdc.gov); Cho, David S (CBER) (FDA/CBER) [<David.Cho@fda.hhs.gov>](mailto:David.Cho@fda.hhs.gov); Cossaboom, Caitlin (CDC/DDID/NCEZID/DHCPP) [<nrm9@cdc.gov>](mailto:nrm9@cdc.gov); Daniel Wolfe (OS/ASPR/BARDA) ([Daniel.Wolfe2@hhs.gov](mailto:Daniel.Wolfe2@hhs.gov)) [<Daniel.Wolfe2@hhs.gov>](mailto:Daniel.Wolfe2@hhs.gov); Deussing, Eric (CDC/OD/OCS) [<ncu0@cdc.gov>](mailto:ncu0@cdc.gov); Diaz-Diaz, Carol (OS/ASPR/BARDA) [<Carol.Diaz-diaz@hhs.gov>](mailto:Carol.Diaz-diaz@hhs.gov); Disbrow, Gary (OS/ASPR/BARDA) [<Gary.Disbrow@hhs.gov>](mailto:Gary.Disbrow@hhs.gov); Elizabeth (NIH/NIAID) Higgs [E] ([ehiggs@niaid.nih.gov](mailto:ehiggs@niaid.nih.gov)) [<ehiggs@niaid.nih.gov>](mailto:ehiggs@niaid.nih.gov); Fitter, David L. (CDC/DDPHSIS/CGH/GID) [<vid3@cdc.gov>](mailto:vid3@cdc.gov); Gentles, Andrew (FDA/CDER) [<Andrew.Gentles@fda.hhs.gov>](mailto:Andrew.Gentles@fda.hhs.gov); Hassell, David (Chris) (OS/ASPR/IO) [<David.Hassell@hhs.gov>](mailto:David.Hassell@hhs.gov); Helen Schiltz ([helen.schiltz@nih.gov](mailto:helen.schiltz@nih.gov)) [<helen.schiltz@nih.gov>](mailto:helen.schiltz@nih.gov); Hilary (NIH/NIAID) Marston [E] ([hilary.marston@nih.gov](mailto:hilary.marston@nih.gov)) [<hilary.marston@nih.gov>](mailto:hilary.marston@nih.gov); Hughes, Craig (OS/ASPR/BARDA) [<Craig.Hughes@hhs.gov>](mailto:Craig.Hughes@hhs.gov); Inger K. Damon (CDC/DDID/NCEZID/DHCPP) ([iad7@cdc.gov](mailto:iad7@cdc.gov)) [<iad7@cdc.gov>](mailto:iad7@cdc.gov); Inger-Marie Vilcins ([ivilcins@hivresearch.org](mailto:ivilcins@hivresearch.org)) [<ivilcins@hivresearch.org>](mailto:ivilcins@hivresearch.org); Jenny A. Walldorf (CDC/DDPHSIS/CGH/GID) ([igf4@cdc.gov](mailto:igf4@cdc.gov)) [<igf4@cdc.gov>](mailto:igf4@cdc.gov); Kahn, Emily B. (CDC/DDID/NCEZID/DPEI) [<ebk9@cdc.gov>](mailto:ebk9@cdc.gov); Karin (NIH/VR) Bok [E] ([karin.bok@nih.gov](mailto:karin.bok@nih.gov)) [<karin.bok@nih.gov>](mailto:karin.bok@nih.gov); Kayvon Modjarrad [<kmodjarrad@hivresearch.org>](mailto:kmodjarrad@hivresearch.org); Kishimori, Jennifer M COL USARMY OSD OUSD P-R (US) ([jennifer.m.kishimori.mil@mail.mil](mailto:jennifer.m.kishimori.mil@mail.mil)) [<jennifer.m.kishimori.mil@mail.mil>](mailto:jennifer.m.kishimori.mil@mail.mil); Lawrence Kerr (HHS/OS/OGA) ([Lawrence.Kerr@hhs.gov](mailto:Lawrence.Kerr@hhs.gov)) [<Lawrence.Kerr@hhs.gov>](mailto:Lawrence.Kerr@hhs.gov); Ledgerwood, Julie (NIH/NIAID) [E] [<JUMARTIN@niaid.nih.gov>](mailto:JUMARTIN@niaid.nih.gov); Marinissen, Maria (HHS/OS/OGA) [<Maria.Marinissen@hhs.gov>](mailto:Maria.Marinissen@hhs.gov); Marion Gruber (FDA/CBER) ([Marion.Gruber@fda.hhs.gov](mailto:Marion.Gruber@fda.hhs.gov)) [<Marion.Gruber@fda.hhs.gov>](mailto:Marion.Gruber@fda.hhs.gov); Marks, Peter (FDA/CBER) [<Peter.Marks@fda.hhs.gov>](mailto:Peter.Marks@fda.hhs.gov); Martin I. Meltzer (CDC/DDID/NCEZID/DPEI) ([gzm4@cdc.gov](mailto:gzm4@cdc.gov)) [<gzm4@cdc.gov>](mailto:gzm4@cdc.gov); Mary Joung Choi (CDC/DDID/NCEZID/DHCPP) ([whz2@cdc.gov](mailto:whz2@cdc.gov)) [<whz2@cdc.gov>](mailto:whz2@cdc.gov); Merchlinsky, Michael (OS/ASPR/BARDA) [<Michael.Merchlinsky@hhs.gov>](mailto:Michael.Merchlinsky@hhs.gov); Michael Mair (FDA/OC) ([Michael.Mair@fda.hhs.gov](mailto:Michael.Mair@fda.hhs.gov)) [<Michael.Mair@fda.hhs.gov>](mailto:Michael.Mair@fda.hhs.gov); Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) [<ztq9@cdc.gov>](mailto:ztq9@cdc.gov); Nelson Michael [<nmichael@hivresearch.org>](mailto:nmichael@hivresearch.org); Paula (NIH/NIAID) Bryant [E] ([paula.bryant@nih.gov](mailto:paula.bryant@nih.gov)) [<paula.bryant@nih.gov>](mailto:paula.bryant@nih.gov); Pawlicki, Nathan J CTR DHA MED COUNTERMEASURES (US) ([nathan.j.pawlicki.ctr@mail.mil](mailto:nathan.j.pawlicki.ctr@mail.mil)) [<nathan.j.pawlicki.ctr@mail.mil>](mailto:nathan.j.pawlicki.ctr@mail.mil); Philip Krause (FDA/CBER) ([Philip.Krause@fda.hhs.gov](mailto:Philip.Krause@fda.hhs.gov)) [<Philip.Krause@fda.hhs.gov>](mailto:Philip.Krause@fda.hhs.gov); Ray Arthur (CDC/DDPHSIS/CGH/DGHP) ([rca8@cdc.gov](mailto:rca8@cdc.gov)) [<rca8@cdc.gov>](mailto:rca8@cdc.gov); Rita Helfand (CDC/DDID/NCEZID/OD) ([rz7@cdc.gov](mailto:rz7@cdc.gov)) [<rz7@cdc.gov>](mailto:rz7@cdc.gov); Sabourin, Carol (OS/ASPR/BARDA) [<Carol.Sabourin@hhs.gov>](mailto:Carol.Sabourin@hhs.gov); Samuel, Anita (CDC/DDPHSIS/CGH/GID) [<kyp8@cdc.gov>](mailto:kyp8@cdc.gov); Simon, David (OS/ASPR/BARDA) [<David.Simon@hhs.gov>](mailto:David.Simon@hhs.gov); Styrt, Barbara (FDA/CDER) [<Barbara.Styrt@fda.hhs.gov>](mailto:Barbara.Styrt@fda.hhs.gov); Suzanne Mate [<suzanne.e.mate.mil@mail.mil>](mailto:suzanne.e.mate.mil@mail.mil); Taylor, Kimberly (NIH/NIAID) [E] [<kimberly.taylor3@nih.gov>](mailto:kimberly.taylor3@nih.gov); Taylor, Marva (OS/ASPR/BARDA) [<Marva.Taylor@hhs.gov>](mailto:Marva.Taylor@hhs.gov); Terri Hyde (CDC/DDPHSIS/CGH/GID) ([tkh4@cdc.gov](mailto:tkh4@cdc.gov)) [<tkh4@cdc.gov>](mailto:tkh4@cdc.gov); Thompson, Elizabeth (FDA/CDER) [<Elizabeth.Thompson@fda.hhs.gov>](mailto:Elizabeth.Thompson@fda.hhs.gov); Turley, Danielle (OS/ASPR/BARDA) [<Danielle.Turley@hhs.gov>](mailto:Danielle.Turley@hhs.gov); Walke, Henry (CDC/DDID/NCEZID/DPEI) [<hfw3@cdc.gov>](mailto:hfw3@cdc.gov); Walker, Robert (OS/ASPR/BARDA) [<Robert.Walker@hhs.gov>](mailto:Robert.Walker@hhs.gov); Weinberger, Collin (OS/OGA) (CTR) [<Collin.Weinberger@hhs.gov>](mailto:Collin.Weinberger@hhs.gov)  
**Subject:** Ebola MCM Scientific WG - Agenda (10/8)

Good morning, everyone. I've attached the agenda for tomorrow's meeting. As you can see, we have a pretty aggressive schedule so I'll look to start promptly at 10:30am and I've double checked the access code so we should be good on that front. I believe some slides might help the summary of the BARDA-supported manufacturing so I'll try to get a brief deck together and out to the group this evening.

On a housekeeping note, I believe I have everyone included and assigned correctly in the participant list. If there are any mistakes, please let me know. Also, if you're on this distribution list and do not plan to participate on a regular basis going forward, please let me know and I can update accordingly. Thanks!



David Boucher, PhD  
Chief, Antivirals & Antitoxins  
Division of CBRN Countermeasures  
Biomedical Advanced Research and Development Authority (BARDA)  
Office of Assistant Secretary for Preparedness and Response (ASPR)  
U.S. Department of Health & Human Services (HHS)  
200 C St SW, 24L13  
Washington DC 20024  
Office: (202) 692-4619  
Cell: (b)(6)  
[david.boucher@hhs.gov](mailto:david.boucher@hhs.gov)



**Recipient:**

Boucher, David (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=41293945651d475fa0413062a819aac5-Boucher, David <David.Boucher@hhs.gov>;  
Zarrabian, Amanda (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0c650b07917242129deb0f942bb4cc10-Zarrabian, <amanda.zarrabian@hhs.gov>;  
Ayala, Ana (OS/ASPR/SPPR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=80a408be55b14221a42c2b91002d6bf7-Ayala, Ana <Ana.Ayala@hhs.gov>;  
Biggins, Julia E CTR (USA) <julia.e.biggins.ctr@mail.mil>;  
Birnkran, Debra B (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=57a9d96c3a884fc0808702ed5d3a7b4c-debra.birnk <Debra.Birnkran@fda.hhs.gov>;  
Carter, Rosalind J. (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f16dc874b53240f7a323b1246027e71c-roslind.ca <rdc6@cdc.gov>;  
Cho, David S (CBER) (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d79853f418ac488c9cd10b70d1e2b0f1-david.cho.f <David.Cho@fda.hhs.gov>;  
Cossaboom, Caitlin (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2063b181b77a49a4b498ee8b7afa7478-caitlin.cos <nrm9@cdc.gov>;  
Wolfe, Daniel (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=01933911e406492fbd7f86e0235944d7-Wolfe, Daniel <Daniel.Wolfe2@hhs.gov>;  
Deussing, Eric (CDC/OD/OCS) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d0e1290339b14ad6844f56b40d0c6661-eric.deussi <ncu0@cdc.gov>;  
Diaz-Diaz, Carol (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3b2b5f0685df417b9e2a0018c6fd251f-Diaz-Diaz, <Carol.Diaz-diaz@hhs.gov>;  
Disbrow, Gary (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0fd5845defda4dc0bb45f8fac629cf09-Disbrow, Gary <Gary.Disbrow@hhs.gov>;

Higgs, Elizabeth (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ce3e542539154ce59df4bedbc8741ebf-elizabeth.h <ehiggs@niaid.nih.gov>;

Fitter, David L. (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=fbd8cb8b5f054c98a5d907ce4a8f2bde-david.fitte <vid3@cdc.gov>;

Gentles, Andrew (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=cd01d5eb6d814cbcb9d6547155eb7596-andrew.gent <Andrew.Gentles@fda.hhs.gov>;

Hassell, David (Chris) (OS/ASPR/IO) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=aedbf0ff96e4119ac7a3b3abaf71a3d-Hassell, Da <David.Hassell@hhs.gov>;

Schiltz, Helen (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=89f2008d8dd04f5ea7695f37929f6d7-helen.schil <hschiltz@niaid.nih.gov>;

Marston, Hilary (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=93be476c17024bbcbcb5b44add01fe6a8-hilary.mars <hilary.marston@nih.gov>;

Hughes, Craig (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a4ade4d09cb444bb995d03c84d1f0746-Hughes, Cra <Craig.Hughes@hhs.gov>;

Damon, Inger K. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0200deb66dbc44f5aca3f26ed15cdc6a-Damon, Inge <iad7@cdc.gov>;

Inger-Marie Vilcins (ivilcins@hivresearch.org) <ivilcins@hivresearch.org>;

Walldorf, Jenny A. (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e2813aaef1f94f96bb247826243e3811-jenny.wall <igf4@cdc.gov>;

Kahn, Emily B. (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ff8628c4e15948b3b03805d50c3d0eee-Kahn, Emily <ebk9@cdc.gov>;

Bok, Karin (NIH/VRC) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6d1dc469e6684003a0a89b132e8b7916-karin.bok.n <karin.bok@nih.gov>;

Kayvon Modjarrad <kmodjarrad@hivresearch.org>;

Kishimori, Jennifer M COL USARMY OSD OUSD P-R (US) (jennifer.m.kishimori.mil@mail.mil) <jennifer.m.kishimori.mil@mail.mil>;

Ledgerwood, Julie (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=45778324d47644eeb9fced6acbf5108f-julie.marti <JUMARTIN@niaid.nih.gov>;

Marinissen, Maria (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5d42fb4d94b041ee88e4f7dd5743e893-Marinissen, <Maria.Marinissen@hhs.gov>;

Gruber, Marion (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub <Marion.Gruber@fda.hhs.gov>;

Marks, Peter (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=df56588b970c43c8a9a2b9b31406746c-peter.marks <Peter.Marks@fda.hhs.gov>;

Meltzer, Martin I. (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7d4e5aa77412403b9ae866e4c8312e79-Meltzer, Ma <qzm4@cdc.gov>;

Choi, Mary Joung (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c9f8d54090194cf7be8e49b80bca7328-mary.choi.c <whz2@cdc.gov>;

Merchlinsky, Michael (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=29a4736917274e3783b5570c29518cdf-Merchlinsky <Michael.Merchlinsky@hhs.gov>;

Mair, Michael (FDA/OC) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f3e2b23223bc4a1abecf698a4122f6c3-michael.mai <Michael.Mair@fda.hhs.gov>;

Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=62643d5586b14f1798171ce903c12ea4-Montgomery, <zta9@cdc.gov>;

Moudy, Robin (OS/ASPR/SPPR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d421d3e0f6474bc3857583cfc5870d69-Moudy, Robi

<Robin.Moudy@hhs.gov>;  
 Nelson Michael <nmichael@hivresearch.org>;  
 Bryant, Paula (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=b4fe56a126fc4da2a4a187dece3928e2-paula.bryan  
 <paula.bryant@nih.gov>;  
 Pawlicki, Nathan J CTR DHA MED COUNTERMEASURES (US) (nathan.j.pawlicki.ctr@mail.mil)  
 <nathan.j.pawlicki.ctr@mail.mil>;  
 Krause, Philip (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau  
 <Philip.Krause@fda.hhs.gov>;  
 Arthur, Ray (CDC/DDPHSIS/CGH/DGHP) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=855f8ca30adc4a59906fd6647ac8371d-Arthur, Ray  
 <rca8@cdc.gov>;  
 Helfand, Rita (CDC/DDID/NCEZID/OD) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=28a17ce03de24abbb3e9c9e1363c4017-Helfand, Ri  
 <rz7@cdc.gov>;  
 Sabourin, Carol (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=46ae47e8f4b34a6e9d2804b44e192651-Sabourin, C  
 <Carol.Sabourin@hhs.gov>;  
 Samuel, Anita (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=9238fa3a950b4c118cad476c0ef01c40-anita.samue  
 <kyp8@cdc.gov>;  
 Simon, David (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=a7d46815edf04bb28ac3ea25ff3d3268-Simon, Davi  
 <David.Simon@hhs.gov>;  
 Styrt, Barbara (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=fd3d53d2e3994f678050e141d6a0b9db-barbara.sty  
 <Barbara.Styrt@fda.hhs.gov>;  
 Suzanne Mate <suzanne.e.mate.mil@mail.mil>;  
 Taylor, Kimberly (NIH/NIAID) [E] <kimberly.taylor3@nih.gov>;  
 Taylor, Marva (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=34ad843b32e14d9fb5e825646336d169-Taylor, Mar  
 <Marva.Taylor@hhs.gov>;  
 Hyde, Terri (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=653839b51d4442a7b5ad95e605761104-Hyde, Terri  
 <tkh4@cdc.gov>;  
 Thompson, Elizabeth (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=ebdef60dc3794a8db0daf295649d05f0-elizabeth.t  
 <Elizabeth.Thompson@fda.hhs.gov>;  
 Turley, Danielle (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=befe52d068424520bd5f5eddb942ff4d-Turley, Dan  
 <Danielle.Turley@hhs.gov>;  
 Walke, Henry (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=a4fec678cea4ee7a1436ed6ec669c27-Walke, Henr  
 <hfw3@cdc.gov>;  
 Walker, Robert (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=7a02e128c60f4a7195532a1545af9556-Walker, Rob  
 <Robert.Walker@hhs.gov>;  
 Weinberger, Collin (OS/OGA) (CTR) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=641554fc7843407585827af5898d9c26-Weinberger,  
 <Collin.Weinberger@hhs.gov>;  
 Yu, Yon C. (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=bbdd97c36ce040d8adc6dc54932741bd-Yu, Yon C.  
 <fkb8@cdc.gov>

**Sent Date:** 2019/10/13 10:32:09

**Delivered Date:** 2019/10/13 10:31:51

**Message Flags:** Unread Unsent

<b>From:</b>	<Lawrence.Kerr@hhs.gov>
<b>To:</b>	Evaluation Only. Created with Aspose.HTML. Copyright 2013-2020 Aspose Pty Ltd.roup (FYDIBOHF23SPDLT)/cn=Recipients/cn=641554fc7843407585827af5898d9c26-Weinberger, <Collin.Weinberger@hhs.gov>
<b>CC:</b>	<p>Zarrabian, Amanda (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0c650b07917242129deb0f942bb4cc10-Zarrabian, &lt;amanda.zarrabian@hhs.gov&gt;;</p> <p>Ayala, Ana (OS/ASPR/SPPR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=80a408be55b14221a42c2b91002d6bf7-Ayala, Ana &lt;Ana.Ayala@hhs.gov&gt;;</p> <p>Biggins, Julia E CTR (USA) &lt;julia.e.biggins.ctr@mail.mil&gt;;</p> <p>Birnkrant, Debra B (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=57a9d96c3a884fc0808702ed5d3a7b4c-debra.birnkrant &lt;Debra.Birnkrant@fda.hhs.gov&gt;;</p> <p>Carter, Rosalind J. (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f16dc874b53240f7a323b1246027e71c-rosalind.ca &lt;rdc6@cdc.gov&gt;;</p> <p>Cho, David S (CBER) (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d79853f418ac488c9cd10b70d1e2b0f1-david.cho.f &lt;David.Cho@fda.hhs.gov&gt;;</p> <p>Cossaboom, Caitlin (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2063b181b77a49a4b498ee8b7afa7478-caitlin.cos &lt;nrm9@cdc.gov&gt;;</p> <p>Wolfe, Daniel (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=01933911e406492fbd7f86e0235944d7-Wolfe, Dani &lt;Daniel.Wolfe2@hhs.gov&gt;;</p> <p>Deussing, Eric (CDC/OD/OCS) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d0e1290339b14ad6844f56b40d0c6661-eric.deussi &lt;ncu0@cdc.gov&gt;;</p> <p>Diaz-Diaz, Carol (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3b2b5f0685df417b9e2a0018c6fd251f-Diaz-Diaz, &lt;Carol.Diaz-diaz@hhs.gov&gt;;</p> <p>Disbrow, Gary (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0fd5845defda4dc0bb45f8fac629cf09-Disbrow, Ga &lt;Gary.Disbrow@hhs.gov&gt;;</p> <p>Higgs, Elizabeth (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ce3e542539154ce59df4bedbc8741ebf-elizabeth.h &lt;ehiggs@niaid.nih.gov&gt;;</p> <p>Fitter, David L. (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=fbd8cb8b5f054c98a5d907ce4a8f2bde-david.fitte &lt;vid3@cdc.gov&gt;;</p> <p>Gentles, Andrew (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=cd01d5eb6d814cbcb9d6547155eb7596-andrew.gent &lt;Andrew.Gentles@fda.hhs.gov&gt;;</p> <p>Hassell, David (Chris) (OS/ASPR/IO) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=aedbfb0ff96e4119ac7a3b3abaf71a3d-Hassell, Da &lt;David.Hassell@hhs.gov&gt;;</p> <p>Schiltz, Helen (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=89f2008d8dd04f5ea7695f37929f6df7-helen.schil &lt;hschiltz@niaid.nih.gov&gt;;</p> <p>Marston, Hilary (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=93be476c17024bbcb5b44add01fe6a8-hilary.mars &lt;hilary.marston@nih.gov&gt;;</p> <p>Hughes, Craig (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a4ade4d09cb44bb995d03c84d1f0746-Hughes, Cra &lt;Craig.Hughes@hhs.gov&gt;;</p> <p>Damon, Inger K. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0200deb66dbc44f5aca3f26ed15cdc6a-Damon, Inge &lt;iad7@cdc.gov&gt;;</p> <p>Inger-Marie Vilcins (ivilcins@hivresearch.org) &lt;ivilcins@hivresearch.org&gt;;</p> <p>Walldorf, Jenny A. (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e2813aaef1f94f96bb247826243e3811-jenny.walld &lt;igf4@cdc.gov&gt;;</p> <p>Kahn, Emily B. (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ff8628c4e15948b3b03805d50c3d0eee-Kahn, Emily</p>

<ebk9@cdc.gov>;  
 Bok, Karin (NIH/VRC) [E] /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=6d1dc469e6684003a0a89b132e8b7916-karin.bok.n  
 <karin.bok@nih.gov>;  
 Kayvon Modjarrad <kmodjarrad@hivresearch.org>;  
 Kishimori, Jennifer M COL USARMY OSD OUSD P-R (US) (jennifer.m.kishimori.mil@mail.mil)  
 <jennifer.m.kishimori.mil@mail.mil>;  
 Ledgerwood, Julie (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=45778324d47644eeb9fced6acbf5108f-julie.marti  
 <jumartin@niaid.nih.gov>;  
 Marinissen, Maria (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=5d42fb4d94b041ee88e4f7dd5743e893-Marinissen,  
 <Maria.Marinissen@hhs.gov>;  
 Gruber, Marion (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub  
 <Marion.Gruber@fda.hhs.gov>;  
 Marks, Peter (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=df56588b970c43c8a9a2b9b31406746c-peter.marks  
 <Peter.Marks@fda.hhs.gov>;  
 Meltzer, Martin I. (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=7d4e5aa77412403b9ae866e4c8312e79-Meltzer, Ma  
 <qzm4@cdc.gov>;  
 Choi, Mary Joung (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=c9f8d54090194cf7be8e49b80bca7328-mary.choi.c  
 <whz2@cdc.gov>;  
 Merchlinsky, Michael (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=29a4736917274e3783b5570c29518cdf-Merchlinsky  
 <Michael.Merchlinsky@hhs.gov>;  
 Mair, Michael (FDA/OC) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=f3e2b23223bc4a1abecf698a4122f6c3-michael.mai  
 <Michael.Mair@fda.hhs.gov>;  
 Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative  
 Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=62643d5586b14f1798171ce903c12ea4-Montgomery,  
 <ztq9@cdc.gov>;  
 Moudy, Robin (OS/ASPR/SPPR) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=d421d3e0f6474bc3857583cfc5870d69-Moudy, Robi  
 <Robin.Moudy@hhs.gov>;  
 Nelson Michael <nmichael@hivresearch.org>;  
 Bryant, Paula (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=b4fe56a126fc4da2a4a187dece3928e2-paula.bryan  
 <paula.bryant@nih.gov>;  
 Pawlicki, Nathan J CTR DHA MED COUNTERMEASURES (US) (nathan.j.pawlicki.ctr@mail.mil)  
 <nathan.j.pawlicki.ctr@mail.mil>;  
 Krause, Philip (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau  
 <Philip.Krause@fda.hhs.gov>;  
 Arthur, Ray (CDC/DDPHSIS/CGH/DGHP) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=855f8ca30adc4a59906fd6647ac8371d-Arthur, Ray  
 <rca8@cdc.gov>;  
 Helfand, Rita (CDC/DDID/NCEZID/OD) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=28a17ce03de24abbb3e9c9e1363c4017-Helfand, Ri  
 <rzh7@cdc.gov>;  
 Sabourin, Carol (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=46ae47e8f4b34a6e9d2804b44e192651-Sabourin, C  
 <Carol.Sabourin@hhs.gov>;  
 Samuel, Anita (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=9238fa3a950b4c118cad476c0ef01c40-anita.samue  
 <kyp8@cdc.gov>;  
 Evaluation Only. Created with Aspose.HTML. Copyright 2013-2020 Aspose Pty Ltd.p  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=a7d46815edf04bb28ac3ea25ff3d3268-Simon, Davi  
 <David.Simon@hhs.gov>;  
 Styrt, Barbara (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=fd3d53d2e3994f678050e141d6a0b9db-barbara.sty  
 <Barbara.Styrt@fda.hhs.gov>;  
 Suzanne Mate <suzanne.e.mate.mil@mail.mil>;  
 Taylor, Kimberly (NIH/NIAID) [E] <kimberly.taylor3@nih.gov>;

	<p>Taylor, Marva (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=34ad843b32e14d9fb5e825646336d169-Taylor, Mar &lt;Marva.Taylor@hhs.gov&gt;;</p> <p>Hyde, Terri (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=653839b51d4442a7b5ad95e605761104-Hyde, Terri &lt;tkh4@cdc.gov&gt;;</p> <p>Thompson, Elizabeth (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ebdef60dc3794a8db0daf295649d05f0-elizabeth.t &lt;Elizabeth.Thompson@fda.hhs.gov&gt;;</p> <p>Turley, Danielle (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=befe52d068424520bd5f5eddb942ff4d-Turley, Dan &lt;Danielle.Turley@hhs.gov&gt;;</p> <p>Walke, Henry (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a4fecdc678cea4ee7a1436ed6ec669c27-Walke, Henr &lt;hfw3@cdc.gov&gt;;</p> <p>Walker, Robert (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7a02e128c60f4a7195532a1545af9556-Walker, Rob &lt;Robert.Walker@hhs.gov&gt;;</p> <p>Yu, Yon C. (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=bdd97c36ce040d8adc6dc54932741bd-Yu, Yon C. &lt;fkb8@cdc.gov&gt;;</p> <p>Boucher, David (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=41293945651d475fa0413062a819aac5-Boucher, Da &lt;David.Boucher@hhs.gov&gt;;</p> <p>Arboleda, Nelson (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6d4af65b23fd452e9fbde0d8f6879142-Arboleda, N &lt;Nelson.Arboleda@hhs.gov&gt;;</p> <p>Dubois, Ae (STATE.GOV) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=54a41b227bb042cbada9163768f3b1f9-Ae.Dubois.s &lt;duboisae@state.gov&gt;;</p> <p>Klein, Mackenzie (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=fb6bc8bed126402c8995ddba154ab72-Klein, Mack &lt;Mackenzie.Klein@hhs.gov&gt;;</p> <p>Graham, Barney (NIH/VRC) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2885576a25764ec1817bc73356fc9029-barney.grah &lt;bgraham@mail.nih.gov&gt;;</p> <p>Poley, Gerald (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1652fb2d5ebc405db14139a73d364c23-gerald.pole &lt;Gerald.Poley@fda.hhs.gov&gt;</p>
<b>Subject:</b>	Re: Ebola MCM WG: Merck update
<b>Date:</b>	2019/10/18 10:59:20
<b>Priority:</b>	Normal
<b>Type:</b>	Note

## Major milestone for WHO-supported Ebola vaccine

**18 October 2019 | Geneva** - The World Health Organization (WHO) welcomes the European Medicines Agency (EMA) announcement recommending a conditional marketing authorization for the rVSV-ZEBOV-GP vaccine, which has been shown to be effective in protecting people from the Ebola virus.

Today's announcement by EMA, the European agency responsible for the scientific evaluation of medicines developed by pharmaceutical companies, is a key step before the European Commission decision on licensing. In parallel, WHO will move towards prequalification of the vaccine.

“The conditional authorization of the world's first Ebola vaccine is a triumph for public health,

and a testimony to the unprecedented collaboration between scores of experts worldwide,” said Dr Tedros Adhanom Ghebreyesus, WHO Director-General. “My deepest gratitude is to the studies’ volunteers, researchers, health workers in Guinea, other countries and the Democratic Republic of the Congo who have put themselves at risk to ensure people are protected with this vaccine.”

In the past five years, WHO has convened experts to review the evidence on various Ebola vaccine candidates, informed policy recommendations, and mobilized a multilateral coalition to accelerate clinical evaluations. The EMA review was unique in that WHO and African regulators actively participated through an innovative cooperative arrangement put in place by WHO, which will help accelerate registration for the countries most at risk.

A randomized trial for the vaccine began during the West Africa Ebola outbreak in 2015. When no other organization was positioned to run a trial in Guinea during the complex emergency, the government of Guinea and WHO took the unusual step to lead the trial.

A global coalition of funders and researchers provided the critical support required. Funders included the Canadian Government (through the Public Health Agency of Canada, Canadian Institutes of Health Research, International Development Research Centre, Global Affairs Canada); the Norwegian Ministry of Foreign Affairs (through the Research Council of Norway's GLOBVAC programme); the Wellcome Trust; the UK government through the Department for International Development; and Médecins Sans Frontières.

The trial was successfully run using an innovative ring vaccination design. In the 1970s, this ring strategy helped to eradicate smallpox, but this was the first time that an experimental vaccine was evaluated this way.

WHO celebrates the commitment and sacrifices made by so many over the last five years, an international effort that led to this landmark moment in public health. The difficult and painstaking work was undertaken by a global team of researchers, health workers, partners, regulators, governments and field workers from logisticians to vaccinators, and finally, local communities. Together they overcame many obstacles. WHO also recognizes the Canadian government contribution to the early development of this vaccine.

Anticipating that in coming years there will be higher Ebola vaccine demand during and between outbreaks, WHO is working with Gavi, UNICEF and other partners to develop a Global Ebola Vaccines Security Plan, as increased supply capacity and multiple manufacturers will be needed in the short- to medium-term to meet this demand and ensure vaccine security.

There are 8 vaccines undergoing clinical evaluation. WHO continues to work with partners towards an internationally coordinated governing mechanism to ensure access according to risk criteria, and manage supply and stockpiles, especially as supply will remain limited until a full manufacturing capacity is established or other vaccines are licensed.

A roadmap aiming to accelerate prequalification and coordinate actions and contributions to the licensing and roll-out of the rVSV-ZEBOV-GP vaccine in African countries has been developed.

This announcement will not have an immediate effect on how the vaccine is accessed or administered in the Democratic Republic of the Congo, as licensing has not yet occurred, and licensed doses will only be available mid-2020. The vaccine will continue to be used in the country under a research protocol (also known as “expanded access” or “compassionate use”), and with the ring vaccination strategy.

In the current Ebola outbreak in the Democratic Republic of the Congo, more than 236,000 people have been vaccinated with rVSV ZEBOV GP donated by Merck to WHO, including more than 60,000 health and frontline workers in the Democratic Republic of the Congo and in Uganda, South Sudan, Rwanda and Burundi.

“This vaccine has already saved many lives in the current Ebola outbreak, and the decision by European regulator will help it to eventually save many more,” said Dr Tedros, WHO Director-General. “I am proud of the role WHO has played, from supporting the research, to conducting the trial in Guinea in 2015.”

Sent from my iPhone

On Oct 17, 2019, at 9:54 AM, Weinberger, Collin (OS/OGA) (CTR)  
<[Collin.Weinberger@hhs.gov](mailto:Collin.Weinberger@hhs.gov)>wrote:

Dear All,

Ahead of the briefing at 12:30p today with Janssen/J&J, I wanted to recirculate the materials and dial in for the call. For those who are not able to join in person, we will be using webex to screen share the slides for Dr. Van Hoof’s presentation (attached here and to calendar invite). I have also pasted the webex/dial-in information below.

Although we will NOT be discussing these today because we will have the Janssen/J&J presenting to the group, I wanted to also circulate the most recent HHS position and talking points around the Janssen vaccine (attached). NSC has asked HHS to revisit these talking points to consider whether we should change or update them given the impending vaccination campaigns with the Janssen vaccine in DRC and Rwanda. We will likely need to get back to NSC with an answer by early next week, so please consider this as we hear Dr. Van Hoof’s presentation.

Best,  
Collin

Collin Weinberger, MPH  
Senior Global Health Officer, Office of Pandemics and Emerging Threats  
Office of Global Affairs  
U.S. Department of Health and Human Services  
(O): (202) 260-6828 (M): (b)(6)  
[collin.weinberger@hhs.gov](mailto:collin.weinberger@hhs.gov)



# Ebola MCM Scientific WG: Janssen/J&J Briefing on Ebola Vaccine and Vaccination Discussions in DRC, Rwanda, and Uganda

When: Thu, Oct 17 2019 12:30 pm (1 hour 30 minutes) Eastern Daylight Time (New York, GMT-04:00)

Host: Collin Weinberger

Meeting Number: (b)(6)

Voice connection:

- Meeting Server Main Number: (b)(6)

- Access Code: (b)(6)

<Janssen Ebola vaccine\_HHS\_17Oct19\_Final.pdf>

<FINAL Background and Talking Points on Janssen Vaccine Trial 8-9-2019 for NSC.docx>

<b>Sender:</b>	<Lawrence.Kerr@hhs.gov>
<b>Recipient:</b>	Weinberger, Collin (OS/OGA) (CTR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=641554fc7843407585827af5898d9c26-Weinberger, <Collin.Weinberger@hhs.gov>; Zarrabian, Amanda (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0c650b07917242129deb0f942bb4cc10-Zarrabian, <amanda.zarrabian@hhs.gov>; Ayala, Ana (OS/ASPR/SPPR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=80a408be55b14221a42c2b91002d6bf7-Ayala, Ana <Ana.Ayala@hhs.gov>; Biggins, Julia E CTR (USA) <julia.e.biggins.ctr@mail.mil>; Birnkrant, Debra B (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=57a9d96c3a884fc0808702ed5d3a7b4c-debra.birnk <Debra.Birnkrant@fda.hhs.gov>; Carter, Rosalind J. (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f16dc874b53240f7a323b1246027e71c-rosalind.ca <rdc6@cdc.gov>; Cho, David S (CBER) (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d79853f418ac488c9cd10b70d1e2b0f1-david.cho.f <David.Cho@fda.hhs.gov>; Cossaboom, Caitlin (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2063b181b77a49a4b498ee8b7afa7478-caitlin.cos <nrm9@cdc.gov>; Wolfe, Daniel (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=01933911e406492fbd7f86e0235944d7-Wolfe, Dani <Daniel.Wolfe2@hhs.gov>; Deussing, Eric (CDC/OD/OCS) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d0e1290339b14ad6844f56b40d0c6661-eric.deussi <ncu0@cdc.gov>; Diaz-Diaz, Carol (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3b2b5f0685df417b9e2a0018c6fd251f-Diaz-Diaz, <Carol.Diaz-diaz@hhs.gov>; Disbrow, Gary (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0fd5845defda4dc0bb45f8fac629cf09-Disbrow, Ga <Gary.Disbrow@hhs.gov>; Higgs, Elizabeth (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ce3e542539154ce59df4bedbc8741ebf-elizabeth.h <ehiggs@niaid.nih.gov>; Fitter, David L. (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=fbd8cb8b5f054c98a5d907ce4a8f2bde-david.fitte <vid3@cdc.gov>;

Gentles, Andrew (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=cd01d5eb6d814cbcb9d6547155eb7596-andrew.gentles<Andrew.Gentles@fda.hhs.gov>;

Hassell, David (Chris) (OS/ASPR/IO) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=aedbf0ff96e4119ac7a3b3abaf71a3d-Hassell, David<David.Hassell@hhs.gov>;

Schiltz, Helen (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=89f2008d8dd04f5ea7695f37929f6df7-helen.schiltz<hschiltz@niaid.nih.gov>;

Marston, Hilary (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=93be476c17024bbcb5b44add01fe6a8-hilary.marston<hilary.marston@nih.gov>;

Hughes, Craig (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a4ade4d09cb444bb995d03c84d1f0746-Hughes, Craig<Craig.Hughes@hhs.gov>;

Damon, Inger K. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0200deb66dbc44f5aca3f26ed15cdc6a-Damon, Inger<iad7@cdc.gov>;

Inger-Marie Vilcins (ivilcins@hivresearch.org) <ivilcins@hivresearch.org>;

Walldorf, Jenny A. (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e2813aaef1f94f96bb247826243e3811-jenny.walldorf<igf4@cdc.gov>;

Kahn, Emily B. (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ff8628c4e15948b3b03805d50c3d0ee-Kahn, Emily<ebk9@cdc.gov>;

Bok, Karin (NIH/VR) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6d1dc469e6684003a0a89b132e8b7916-karin.bok.n<karin.bok@nih.gov>;

Kayvon Modjarrad <kmodjarrad@hivresearch.org>;

Kishimori, Jennifer M COL USARMY OSD OUSD P-R (US) (jennifer.m.kishimori.mil@mail.mil) <jennifer.m.kishimori.mil@mail.mil>;

Ledgerwood, Julie (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=45778324d47644eeb9fced6acbf5108f-julie.martini<jumartin@niaid.nih.gov>;

Marinissen, Maria (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5d42fb4d94b041ee88e4f7dd5743e893-Marinissen, Maria<Maria.Marinissen@hhs.gov>;

Gruber, Marion (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.gruber<Marion.Gruber@fda.hhs.gov>;

Marks, Peter (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=df56588b970c43c8a9a2b9b31406746c-peter.marks<Peter.Marks@fda.hhs.gov>;

Meltzer, Martin I. (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7d4e5aa77412403b9ae866e4c8312e79-Meltzer, Martin<qzm4@cdc.gov>;

Choi, Mary Joung (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c9f8d54090194cf7be8e49b80bca7328-mary.choi.c<whz2@cdc.gov>;

Merchilinsky, Michael (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=29a4736917274e3783b5570c29518cdf-Merchilinsky, Michael<Michael.Merchilinsky@hhs.gov>;

Mair, Michael (FDA/OC) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f3e2b23223bc4a1abecf698a4122f6c3-michael.mair<Michael.Mair@fda.hhs.gov>;

Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=62643d5586b14f1798171ce903c12ea4-Montgomery, Joel<ztq9@cdc.gov>;

Moudy, Robin (OS/ASPR/SPRR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d421d3e0f6474bc3857583cfc5870d69-Moudy, Robin<Robin.Moudy@hhs.gov>;

Nelson Michael <nmichael@hivresearch.org>;

Bryant, Paula (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b4fe56a126fc4da2a4a187dece3928e2-paula.bryant<paula.bryant@nih.gov>;

Pawlicki, Nathan J CTR DHA MED COUNTERMEASURES (US) (nathan.j.pawlicki.ctr@mail.mil)

<nathan.j.pawlicki.ctr@mail.mil>;  
 Krause, Philip (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau  
 <Philip.Krause@fda.hhs.gov>;  
 Arthur, Ray (CDC/DDPHSIS/CGH/DGHP) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=855f8ca30adc4a59906fd6647ac8371d-Arthur, Ray  
 <rca8@cdc.gov>;  
 Helfand, Rita (CDC/DDID/NCEZID/OD) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=28a17ce03de24abbb3e9c9e1363c4017-Helfand, Ri  
 <rz7@cdc.gov>;  
 Sabourin, Carol (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=46ae47e8f4b34a6e9d2804b44e192651-Sabourin, C  
 <Carol.Sabourin@hhs.gov>;  
 Samuel, Anita (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=9238fa3a950b4c118cad476c0ef01c40-anita.samue  
 <kyp8@cdc.gov>;  
 Simon, David (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=a7d46815edf04bb28ac3ea25ff3d3268-Simon, Davi  
 <David.Simon@hhs.gov>;  
 Styrt, Barbara (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=fd3d53d2e3994f678050e141d6a0b9db-barbara.sty  
 <Barbara.Styrt@fda.hhs.gov>;  
 Suzanne Mate <suzanne.e.mate.mil@mail.mil>;  
 Taylor, Kimberly (NIH/NIAID) [E] <kimberly.taylor3@nih.gov>;  
 Taylor, Marva (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=34ad843b32e14d9fb5e825646336d169-Taylor, Mar  
 <Marva.Taylor@hhs.gov>;  
 Hyde, Terri (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=653839b51d4442a7b5ad95e605761104-Hyde, Terri  
 <tkh4@cdc.gov>;  
 Thompson, Elizabeth (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=ebdef60dc3794a8db0daf295649d05f0-elizabeth.t  
 <Elizabeth.Thompson@fda.hhs.gov>;  
 Turley, Danielle (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=befe52d068424520bd5f5eddb942ff4d-Turley, Dan  
 <Danielle.Turley@hhs.gov>;  
 Walke, Henry (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=a4fec6d78cea4ee7a1436ed6ec669c27-Walke, Henr  
 <hfw3@cdc.gov>;  
 Walker, Robert (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=7a02e128c60f4a7195532a1545af9556-Walker, Rob  
 <Robert.Walker@hhs.gov>;  
 Yu, Yon C. (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=bbdd97c36ce040d8adc6dc54932741bd-Yu, Yon C.  
 <fkb8@cdc.gov>;  
 Boucher, David (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=41293945651d475fa0413062a819aac5-Boucher, Da  
 <David.Boucher@hhs.gov>;  
 Arboleda, Nelson (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=6d4af65b23fd452e9fbde0d8f6879142-Arboleda, N  
 <Nelson.Arboleda@hhs.gov>;  
 Dubois, Ae (STATE.GOV) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=54a41b227bb042cbada9163768f3b1f9-Ae.Dubois.s  
 <duboisae@state.gov>;  
 Klein, Mackenzie (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=fb6bc8bed126402c8995ddbf154ab72-Klein, Mack  
 <Mackenzie.Klein@hhs.gov>;  
 Graham, Barney (NIH/VRC) [E] /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=2885576a25764ec1817bc73356fc9029-barney.grah  
 <bgraham@mail.nih.gov>;  
 Poley, Gerald (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=1652fb2d5ebc405db14139a73d364c23-gerald.pole  
 <Gerald.Poley@fda.hhs.gov>

**Sent Date:** 2019/10/18 10:59:20

**Message Flags:** Unsent



<b>From:</b>	Kerr, Lawrence (HHS/OS/OGA) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE>
<b>SentVia:</b>	Lopez, Arnela (OS/OGA) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=505A8FE681584CA49E73F219976891AA-LOPEZ, ARNE>
<b>To:</b>	Kerr, Lawrence (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8ce9de2e7497472bb758f8fd6e262c86-Kerr, Lawre <Lawrence.Kerr@hhs.gov>; 'swaminathans@who.int' <swaminathans@who.int>; 'aylwardb@who.int' <aylwardb@who.int>; 'swaminathans@who.int' <swaminathans@who.int>; 'aylwardb@who.int' <aylwardb@who.int>
<b>Subject:</b>	USG-WHO MCM Cooperation Call
<b>Date:</b>	2020/06/11 20:35:16
<b>Start Date:</b>	2020/06/12 08:00:00
<b>End Date:</b>	2020/06/12 08:30:00
<b>Priority:</b>	Normal
<b>Type:</b>	Appointment
<b>Location:</b>	Conference line below

USG-WHO MCM Cooperation Call: Dr. Larry Kerr, Dr. Soumya Swaminathan and Dr. Bruce Aylward.

Domestic: (b)(6)  
International: (b)(6)  
Participant Passcode: (b)(6)

<b>Sender:</b>	Kerr, Lawrence (HHS/OS/OGA) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE>; Lopez, Arnela (OS/OGA) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=505A8FE681584CA49E73F219976891AA-LOPEZ, ARNE>
<b>Recipient:</b>	Kerr, Lawrence (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8ce9de2e7497472bb758f8fd6e262c86-Kerr, Lawre <Lawrence.Kerr@hhs.gov>; 'swaminathans@who.int' <swaminathans@who.int>; 'aylwardb@who.int' <aylwardb@who.int>; 'swaminathans@who.int' <swaminathans@who.int>; 'aylwardb@who.int' <aylwardb@who.int>
<b>Sent Date:</b>	2020/06/11 20:35:16

<b>To:</b>	Evaluation Only. Created with Aspose.HTML. Copyright 2013-2020 Aspose Pty Ltd. (FYDIBOHF23SPDLT)/cn=Recipients/cn=7cd78b4810d44b17b8711aaede9a9023-Grigsby, GI <Garrett.Grigsby@hhs.gov>; Lane, Cliff (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=11a174ee688e426392d98ba9cd5e1945-cliff.lane. <CLANE@niaid.nih.gov>
<b>CC:</b>	Zebley, Kyle (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b81a0e4749994f969ff1063b9a3a0b1f-Zebley, Kyl <Kyle.Zebley@hhs.gov>; Oakley, Caitlin B. (OS/ASPA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e5ee4c35534c4af9bdac46789c034790-Oakley, Cai <Caitlin.Oakley@HHS.GOV>
<b>Subject:</b>	RE: CBS: Question for you
<b>Date:</b>	2020/04/23 09:34:42
<b>Priority:</b>	Normal
<b>Type:</b>	Note

(b)(5)

---

**From:** Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov>  
**Sent:** Thursday, April 23, 2020 9:27 AM  
**To:** Lane, Cliff (NIH/NIAID) [E] <clane@niaid.nih.gov>; Kerr, Lawrence (HHS/OS/OGA) <Lawrence.Kerr@hhs.gov>  
**Cc:** Zebley, Kyle (HHS/OS/OGA) <Kyle.Zebley@hhs.gov>; Oakley, Caitlin B. (OS/ASPA) <Caitlin.Oakley@HHS.GOV>  
**Subject:** FW: CBS: Question for you  
**Importance:** High

Cliff and Larry,

Would y'all mind collaborating quickly and drafting a reply to CBS's question?

Larry has seen a version of this yesterday because DoS copied us, but now she is coming directly to HHS...

Thanks!

---

**From:** Zebley, Kyle (HHS/OS/OGA) <[Kyle.Zebley@hhs.gov](mailto:Kyle.Zebley@hhs.gov)>  
**Sent:** Thursday, April 23, 2020 12:14 AM  
**To:** Kerr, Lawrence (HHS/OS/OGA) <[Lawrence.Kerr@hhs.gov](mailto:Lawrence.Kerr@hhs.gov)>; Elvander, Erika (OS/OGA) <[Erika.Elvander@hhs.gov](mailto:Erika.Elvander@hhs.gov)>; Mciff, Colin (HHS/OS/OGA) <[Colin.Mciff@hhs.gov](mailto:Colin.Mciff@hhs.gov)>  
**Cc:** Grigsby, Garrett (HHS/OS/OGA) <[Garrett.Grigsby@hhs.gov](mailto:Garrett.Grigsby@hhs.gov)>  
**Subject:** Fwd: CBS: Question for you

Any thoughts on how to respond here?

Sent from my iPhone

Begin forwarded message:

**From:** "Oakley, Caitlin B. (OS/ASPA)" <[Caitlin.Oakley@HHS.GOV](mailto:Caitlin.Oakley@HHS.GOV)>  
**Date:** April 22, 2020 at 23:10:53 EDT  
**To:** "Caputo, Michael (HHS/ASPA)" <[Michael.Caputo@hhs.gov](mailto:Michael.Caputo@hhs.gov)>, "McKeogh, Katherine (OS/ASPA)" <[Katherine.McKeogh@hhs.gov](mailto:Katherine.McKeogh@hhs.gov)>  
**Cc:** "Grigsby, Garrett (HHS/OS/OGA)" <[Garrett.Grigsby@hhs.gov](mailto:Garrett.Grigsby@hhs.gov)>, "Zebley, Kyle (HHS/OS/OGA)" <[Kyle.Zebley@hhs.gov](mailto:Kyle.Zebley@hhs.gov)>, "Hall, Bill (HHS/ASPA)" <[bill.hall@hhs.gov](mailto:bill.hall@hhs.gov)>, "Murphy, Ryan (OS/ASPA)" <[Ryan.Murphy1@hhs.gov](mailto:Ryan.Murphy1@hhs.gov)>  
**Subject:** RE: CBS: Question for you

+ others. OGA--where's the best place to start on this? Looks WHO related. Thanks.

**Caitlin B. Oakley**

Deputy Assistant Secretary, National Spokesperson  
Office of the Assistant Secretary for Public Affairs  
U.S. Department of Health and Human Services  
[caitlin.oakley@hhs.gov](mailto:caitlin.oakley@hhs.gov)

---

**From:** Caputo, Michael (HHS/ASPA) <[Michael.Caputo@hhs.gov](mailto:Michael.Caputo@hhs.gov)>  
**Sent:** Wednesday, April 22, 2020 11:08 PM  
**To:** Oakley, Caitlin B. (OS/ASPA) <[Caitlin.Oakley@HHS.GOV](mailto:Caitlin.Oakley@HHS.GOV)>; McKeogh, Katherine (OS/ASPA) <[Katherine.McKeogh@hhs.gov](mailto:Katherine.McKeogh@hhs.gov)>  
**Subject:** CBS: Question for you

Please send this up the flagpole

Sent from my iPhone

Begin forwarded message:

**From:** "Brennan, Margaret" <BrennanM@cbsnews.com>  
**Date:** April 22, 2020 at 10:28:46 PM EDT  
**To:** "Caputo, Michael (HHS/ASPA)" <Michael.Caputo@hhs.gov>  
**Subject:** Question for you

Hi Morgan Ortagus pointed me your way.

The WHO report says that China shared tissue samples of a 50 year old male Covid victim with the team that visited in February. This WHO team included 2 Americans. Why was that tissue sample not sufficient? I see Pompeo said that the virus samples were destroyed and not shared. This seems contradictory. Can you explain?

Regards,

Margaret Brennan  
Face the Nation Moderator  
Sr Foreign Affairs Correspondent  
2027403062

Sent from my iPhone

<b>Recipient:</b>	Grigsby, Garrett (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7cd78b4810d44b17b8711aaede9a9023-Grigsby, Gl <Garrett.Grigsby@hhs.gov>; Lane, Cliff (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=11a174ee688e426392d98ba9cd5e1945-cliff.lane. <CLANE@niaid.nih.gov>; Zebley, Kyle (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b81a0e4749994f969ff1063b9a3a0b1f-Zebley, Kyl <Kyle.Zebley@hhs.gov>; Oakley, Caitlin B. (OS/ASPA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e5ee4c35534c4af9bdac46789c034790-Oakley, Cai <Caitlin.Oakley@HHS.GOV>
<b>Sent Date:</b>	2020/04/23 09:34:46
<b>Delivered Date:</b>	2020/04/23 09:34:42
<b>Message Flags:</b>	Unread Unsent



<b>From:</b>	<Lawrence.Kerr@hhs.gov>
<b>To:</b>	Evaluation Only. Created with Aspose.HTML. Copyright 2013-2020 Aspose Pty Ltd. tive Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0200deb66dbc44f5aca3f26ed15cdc6a-Damon, Inge <iad7@cdc.gov>; Disbrow, Gary (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0fd5845defda4dc0bb45f8fac629cf09-Disbrow, Ga <Gary.Disbrow@hhs.gov>; Marston, Hilary (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=93be476c17024bbcb5b44add01fe6a8-hilary.mars <hilary.marston@nih.gov>; OGA PET Ebola /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=34d6eb178464429aa80dca05d5c5c245-OGA-PET-Ebo <OGA- PET-Ebola@hhs.gov>; Helfand, Rita (CDC/DDID/NCEZID/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=28a17ce03de24abbb3e9c9e1363c4017-Helfand, Ri <rzh7@cdc.gov>; Abram, Anna (FDA/OC) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5d498efef33e4d2ea760cadd22e8aeaa-anna.abram. <Anna.Abram@fda.hhs.gov>; Marks, Peter (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=df56588b970c43c8a9a2b9b31406746c-peter.marks <Peter.Marks@fda.hhs.gov>
<b>Subject:</b>	Fwd: WHO CALL: Follow-up on Ebola Vaccine demand estimates and expansion of vaccine availability (Sept 19)
<b>Date:</b>	2019/09/16 10:41:27
<b>Priority:</b>	Normal
<b>Type:</b>	Note

FYI. Will forward the dial in info when I get it

Sent from my iPhone

Begin forwarded message:

**From:** "Carson, Tracy L (Geneva)" <CarsonTL@state.gov>  
**Date:** September 16, 2019 at 5:20:46 PM GMT+3  
**To:** "Smith, Steven T (Geneva)" <SmithST1@state.gov>, "Martin, Rebecca (CDC/DDPHSIS/CGH/OD)" <rtm4@cdc.gov>, "Kerr, Lawrence" <Lawrence.Kerr@hhs.gov>, "Grigsby, Garrett (HHS/OS/OGA)" <Garrett.Grigsby@hhs.gov>  
**Cc:** "Locus, Tiffany" <tiffany.locus@hhs.gov>, "Mciff, Colin (HHS/OS/OGA)" <Colin.Mciff@hhs.gov>, "Gabrielle.Lamourelle@hhs.gov" <Gabrielle.Lamourelle@hhs.gov>, "Levine, Maya" <maya.levine@hhs.gov>, "Wood, Rachel (HHS/OS/OGA)" <Rachel.Wood@hhs.gov>  
**Subject: WHO CALL: Follow-up on Ebola Vaccine demand estimates and expansion of vaccine availability (Sept 19)**

Dear all –

Sharing across HHS OGA and CDC given travel schedules – per Mike Ryan’s email below – USG is invited to an informal “Ebola Vaccine demand estimates and expansion of vaccine availability “ meeting/teleconference, to provide an update of our estimates, progress and challenges with the implementation of the ring vaccination and specific updates on the implementation of the SAGE

recommendations. The meeting/call will be on Thursday, Sept 19 from, 13:00-14:00 GVA. When the call-in number is sent out, I will forward to this group.

Best,  
Tracy

Tracy Carson

Tel: +41 (0) 22 749 4623 | Mobile: (b)(6)

Unclassified

---

**From:** RYAN, Michael J. <[ryanm@who.int](mailto:ryanm@who.int)>

**Sent:** Monday, September 16, 2019 3:26 PM

**To:** [Garrett.Grigsby@hhs.gov](mailto:Garrett.Grigsby@hhs.gov); [OLX1@cdc.gov](mailto:OLX1@cdc.gov); Healy, Jenifer L. (AID/A) <[jhealy@usaid.gov](mailto:jhealy@usaid.gov)>; Cassayre, Mark J (Geneva) <[CassayreMJ@state.gov](mailto:CassayreMJ@state.gov)>; Moley, Kevin E <[MoleyKE@state.gov](mailto:MoleyKE@state.gov)>; [julian.braithwaite@fco.gov.uk](mailto:julian.braithwaite@fco.gov.uk); [D-Graymore@dfid.gov.uk](mailto:D-Graymore@dfid.gov.uk); [molyneux@dfid.gov.uk](mailto:molyneux@dfid.gov.uk); [Suzuki-yasuhiro@mhlw.go.jp](mailto:Suzuki-yasuhiro@mhlw.go.jp); [hori-hiroyuki@mhlw.go.jp](mailto:hori-hiroyuki@mhlw.go.jp); [naoki.akahane@mofa.go.jp](mailto:naoki.akahane@mofa.go.jp); [takato.koizumi@mofa.go.jp](mailto:takato.koizumi@mofa.go.jp); [wi-1-io@genf.auswaertiges-amt.de](mailto:wi-1-io@genf.auswaertiges-amt.de); [Dagmar.Reitenbach@bmg.bund.de](mailto:Dagmar.Reitenbach@bmg.bund.de); [Bjoern.Kuettel@bmg.bund.de](mailto:Bjoern.Kuettel@bmg.bund.de); [cab-andriukaitis-webpage@ec.europa.eu](mailto:cab-andriukaitis-webpage@ec.europa.eu); [drtheresa.tam@canada.ca](mailto:drtheresa.tam@canada.ca)  
**Cc:** Carson, Tracy L (Geneva) <[CarsonTL@state.gov](mailto:CarsonTL@state.gov)>; [wi-s1-io@genf.auswaertiges-amt.de](mailto:wi-s1-io@genf.auswaertiges-amt.de); [Roisin.Fegan@fco.gov.uk](mailto:Roisin.Fegan@fco.gov.uk); HENAO RESTREPO, Ana Maria <[henaorestrepa@who.int](mailto:henaorestrepa@who.int)>; HOLDEN, Robert Andrew <[holdenr@who.int](mailto:holdenr@who.int)>; KABIR, Sophia <[kabirso@who.int](mailto:kabirso@who.int)>; FARES, Christine Youssef <[faresc@who.int](mailto:faresc@who.int)>

**Subject:** Follow-up on Ebola Vaccine demand estimates and expansion of vaccine availability

Dear Partners,

We would like to invite you or your delegated experts to an informal “Ebola Vaccine demand estimates and expansion of vaccine availability” meeting/teleconference, to provide an update of our estimates, progress and challenges with the implementation of the ring vaccination and specific updates on the implementation of the SAGE recommendations.

The meeting will take place on **19 September, from 13.00-14.00pm** in the lower SHOC room of WHO HQ. A dial-in number will be provided shortly.

If you have any specific items you would like to discuss or if you would like to present any information at the meeting, please let us know.

We would be pleased if you could participate or designate a focal point who should join the meeting.

Many thanks,

Dr Michael J Ryan  
Executive Director  
WHO Emergencies Programme  
World Health Organization

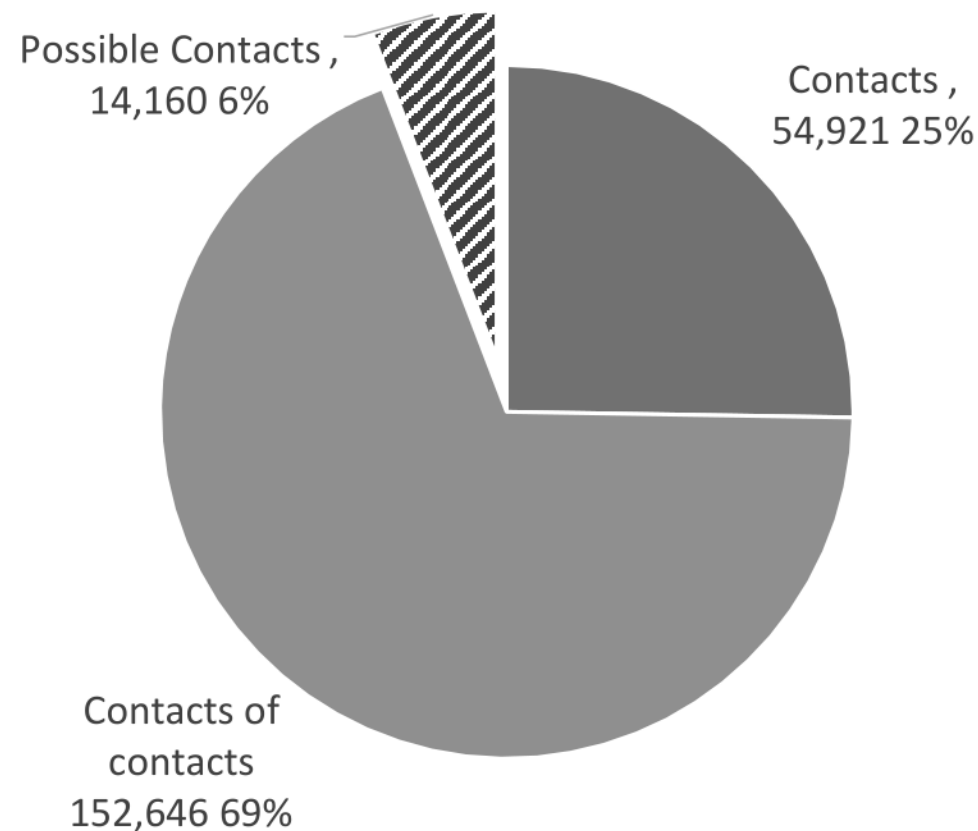
<b>Sender:</b>	<Lawrence.Kerr@hhs.gov>
<b>Recipient:</b>	<p>Damon, Inger K. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0200deb66dbc44f5aca3f26ed15cdc6a-Damon, Inge &lt;iad7@cdc.gov&gt;;</p> <p>Disbrow, Gary (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0fd5845defda4dc0bb45f8fac629cf09-Disbrow, Ga &lt;Gary.Disbrow@hhs.gov&gt;;</p> <p>Marston, Hilary (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=93be476c17024bbcbc5b44add01fe6a8-hilary.mars &lt;hilary.marston@nih.gov&gt;;</p> <p>OGA PET Ebola /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=34d6eb178464429aa80dca05d5c5c245-OGA-PET-Ebo &lt;OGA-PET-Ebola@hhs.gov&gt;;</p> <p>Helfand, Rita (CDC/DDID/NCEZID/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=28a17ce03de24abbb3e9c9e1363c4017-Helfand, Ri &lt;rz7@cdc.gov&gt;;</p> <p>Abram, Anna (FDA/OC) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5d498efef33e4d2ea760cadc22e8aeea-anna.abram. &lt;Anna.Abram@fda.hhs.gov&gt;;</p> <p>Marks, Peter (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=df56588b970c43c8a9a2b9b31406746c-peter.marks &lt;Peter.Marks@fda.hhs.gov&gt;</p>
<b>Sent Date:</b>	2019/09/16 10:41:16
<b>Delivered Date:</b>	2019/09/16 10:41:27
<b>Message Flags:</b>	Unsent

# The teams continue to vaccinate with rVSV ZEBOV GP (with informed consent) a large number of people at risk in the context of the outbreak

Data as of September 15 2019

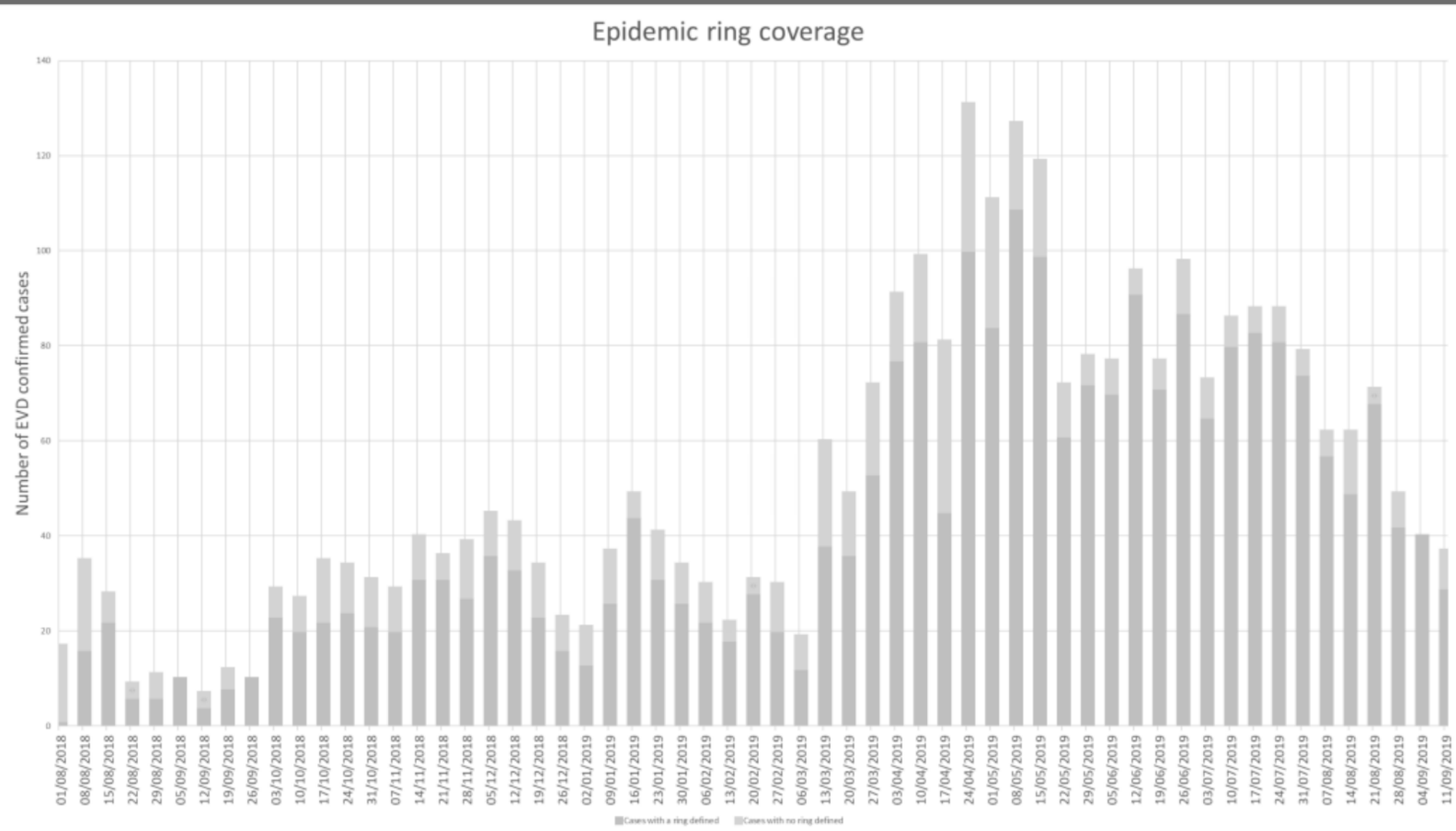
	Number	%
<b>Total consented and vaccinated</b>	<b>221'841</b>	
Contacts	54'921	24.7%
Contacts of contacts	152'646	69%
Possible Contacts	14'160	6.4%
<b>Those vaccinated included the following populations:</b>		
HCWs/FLWS	45'927	20.7%
Children 6-11 months	1'157	0.5%
Children 1-17 year old	72'101	32.5%
Pregnant women	796	0.4%
Breastfeeding Women	3'993	1.8%
Other groups	123'067	55.9%

## Total consented and vaccinated



# Cases of EVD with rings defined, ongoing or pending North Kivu, South Kivu and

November 2021



Organization

EMERGENCIES  
programme

Sum of Nbr de vaccinées

## Vaccination activities - Daily number of doses administered

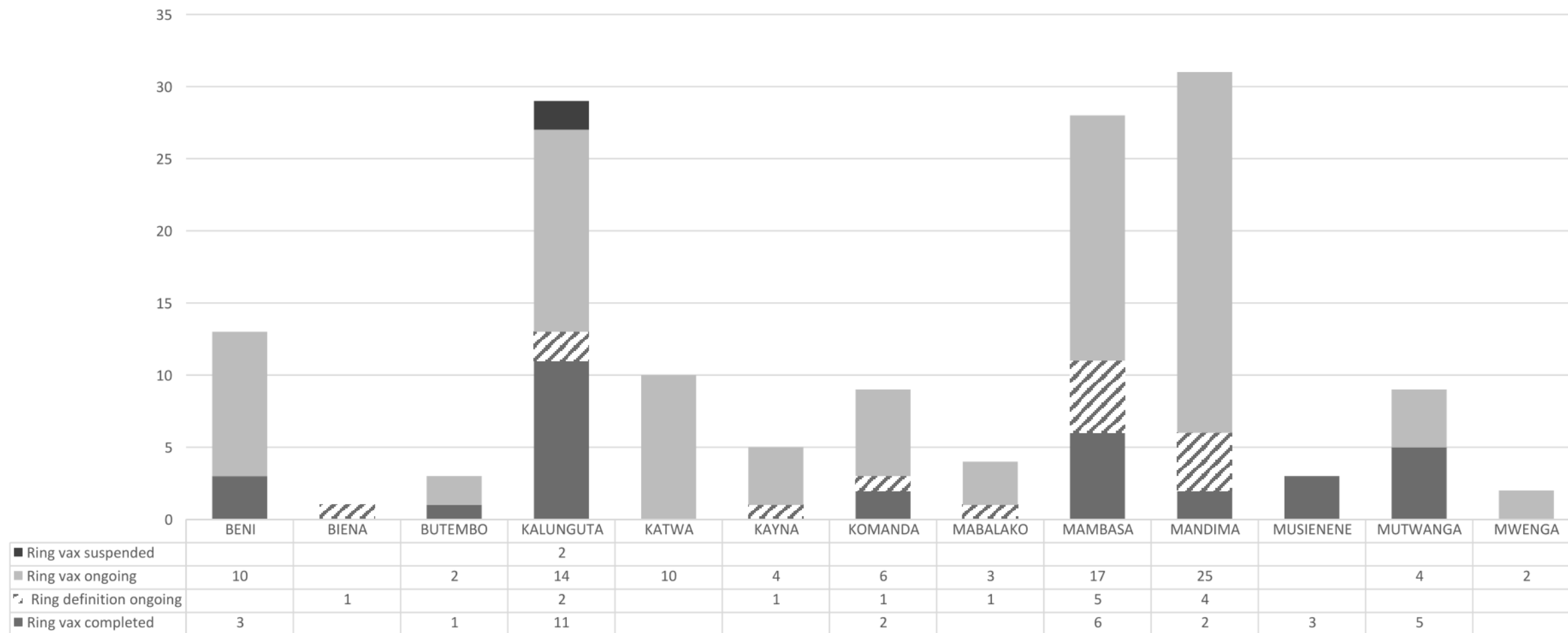


World Health  
Organization

HEALTH  
**EMERGENCIES**  
programme

# Cases of EVD with rings defined, ongoing or pending

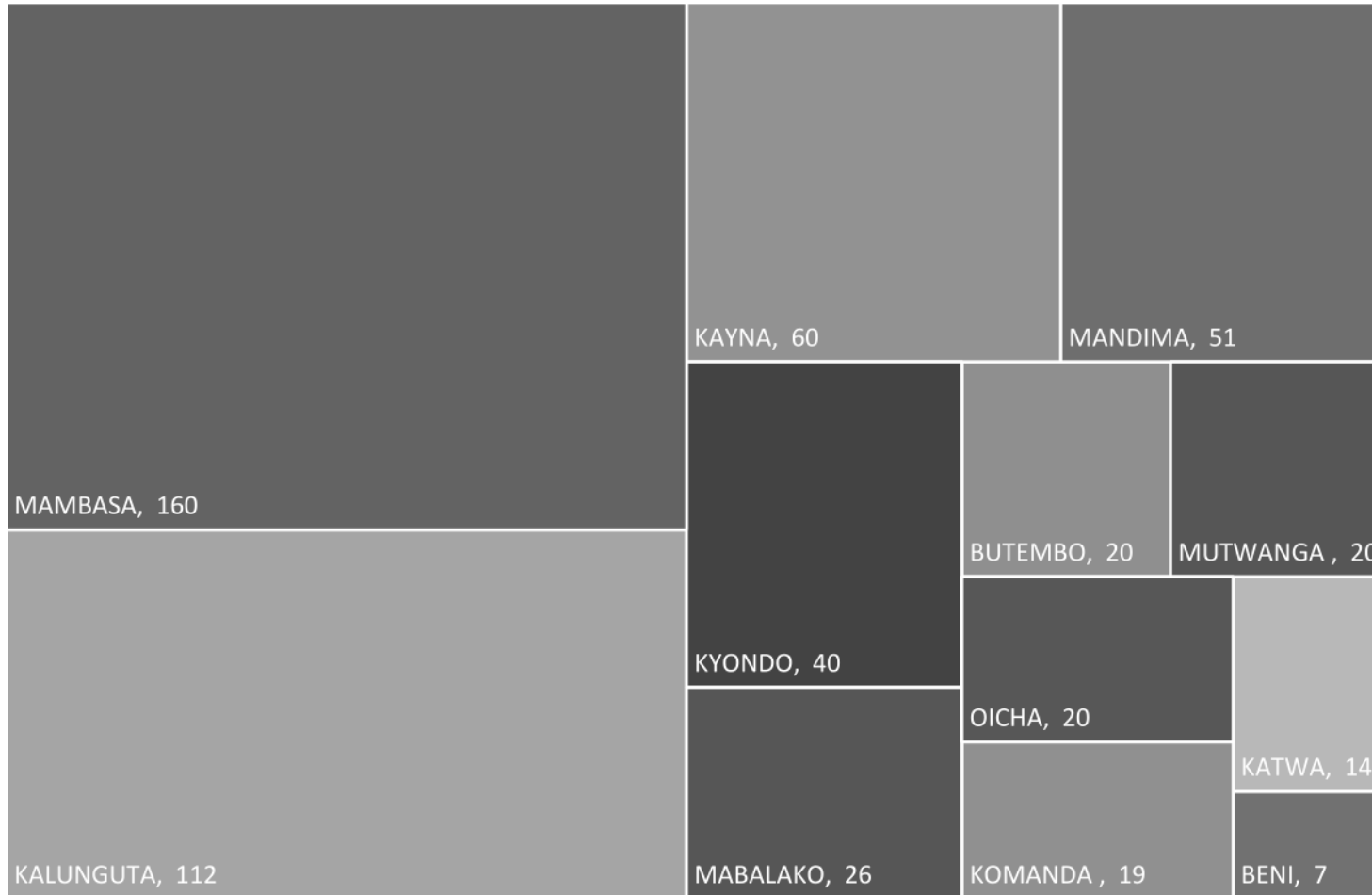
November 2021



World Health  
Organization

HEALTH  
**EMERGENCIES**  
programme

# 549 people vaccinated on Sept 15, 2019



HEALTH ZONE	TOTAL VACCINATED
<b>BENI</b>	<b>7</b>
HGR BENI	7
<b>BUTEMBO</b>	<b>20</b>
ITAV / CTE BUTEMBO	20
<b>KALUNGUTA</b>	<b>112</b>
CHAPELLE MASENZE	10
CH BUTUHE	27
CBCA / KABASHA	40
EGLISE CBCA KABASHA	35
<b>KATWA</b>	<b>14</b>
CS KIVIKA	4
CTE KATWA	2
STADE LIMBORO	8
<b>KAYNA</b>	<b>60</b>
HGR KAYNA	60
<b>KOMANDA</b>	<b>19</b>
NDIMO	19
<b>KYONDO</b>	<b>40</b>
CS KYONDO	40
<b>MABALAKO</b>	<b>26</b>
MANGINA	26
<b>MAMBASA</b>	<b>160</b>
CONGO YA SIKA	40
MADIDI	60
BANANA ECOLE	60
<b>MANDIMA</b>	<b>51</b>
CS LWEMBA	9
PS YASU NI BUANA	32
PS UNION FAIT LA FORCE	10
<b>MUTWANGA</b>	<b>20</b>
CAMP MILITAIRE	20
<b>OICHA</b>	<b>20</b>
MBIMBI	20
<b>Grand Total</b>	<b>549</b>



World Health  
Organization

HEALTH  
**EMERGENCIES**  
programme



**PRE-DECISIONAL – FOR DISCUSSION**

**USG-WHO DIALOGUE ON COVID-19 MCMs**

**FRIDAY, 24 JULY 2020**

**14:00 – 15:00 (Geneva) | 8:00 – 9:00 (DC/Atlanta)**

**1. Welcome and roll call**

*Ms. Ana Ayala, JD, LLM, Senior Global Health Officer, Pandemic and Emerging Threats, HHS/OGA*

**2. U.S. COVID-19 vaccine allocation/prioritization planning**

*Dr. Kathleen Dooling, MD, MPH, Co-Lead, Advisory Committee on Immunization Practices (ACIP) COVID-19 Vaccine Work Group, Centers for Disease Control and Prevention (CDC)*

**3. Discussion**

*All*

**4. Closing remarks and next steps**

*Ms. Ana Ayala, JD, LLM, Senior Global Health Officer, Pandemic and Emerging Threats, HHS/OGA*

## COVID-19 MCM USG-WHO MCM COOPERATION CALL

FRIDAY, 29 MAY 2020

15:00 – 16:00 (Geneva) | 9:00 – 10:00 ET

### NOTES

#### Participants:

**WHO:** *Dr. Soumya Swaminathan, Chief Scientist; Dr. Bruce Aylward, Secretariat for ACT Accelerator; Dr. Mariangela Simão, Assistant Director-General for Drug Access, Vaccines and Pharmaceuticals; Dr. Sylvie Brian, Director for Global Infectious Hazard Preparedness; Dr. Vasee Moorthy, Coordinator for Research and R&D, WHO; Kate O'Brien, Director of the Department of Immunization, Vaccines and Biologicals; Emer Cooke, Director of Regulation of Medicines and other Health Technologies.*

#### USG:

CDC: *Amanda Cohn, Acting Director for the National Center on Birth Defects and Developmental Disabilities (NCBDDD); FDA:* *Mark Abdo, Associate Commissioner for Global Policy and Strategy; David Cho, Senior Scientist for Emerging & Pandemic Threat Preparedness, CBER; Dr. Kevin Bugin, Director of Special Programs, Office of New Drugs, CDER, and OWS Therapeutics Program Manager; NIH:* *Steve Smith, US NIAID Liaison to Mission Geneva at WHO; Christine Sizemore, Director of the Division of International Relations, Fogarty International Center, NIH; FNIH:* *Mr. David Wholley, Senior Vice President, Research Partnerships, Foundation for the National Institutes of Health;*

OGA: *Larry Kerr, Director of Pandemic and Emerging Threats (PET); Emily Bleimund, Director of Trade and Health; Peter Schmeissner, Director of Europe/Eurasia; Anne Snyder, Senior Global Health Officer, Trade and Health; Collin Weinberger, Senior Advisor and Team Lead, PET; Robin Moudy, Senior Science Analyst, PET; Ana Ayala, Senior Global Health Officer, PET; Ruvani Chandrasekera, Senior Global Health Officer, PET; Leandra Olson, Senior Global Health Officer, Multilateral Affairs; Adam Aasen, Global Health Officer/Fellow, PET; Seth Ferry, Global Health Officer, PET; Natalie LaHood, Global Health Officer, PET*

**Objective of USG-WHO Dialogue:** To support collaboration between USG/HHS and WHO on ensuring and addressing foreseeable global challenges to access to safe and effective MCMs, facilitating the exchange of information on the ACT Accelerator, Operation Warp Speed (OWS), and Accelerating COVID-19 Therapeutic Interventions and Vaccines (ACTIV).

### Act Accelerator Overview

**WHO Participants/Presenters:** *Dr. Bruce Aylward, Secretariat for ACT Accelerator; Dr. Soumya Swaminathan*

- Launched a month ago, there are four ACT pillars. Three focus on advancing R&D of vaccines, therapeutics and diagnostics respectively. The fourth pillar, Health Systems, is cross-cutting and considers the regulatory aspects, procurement, supplies, and other capacity and infrastructure country-facing work to ensure receipt and delivery of the product.
- In regular calls with NIH/NIAID – so far have focused on therapeutics but not vaccines; e.g., harmonizing lab standards and global Data and Safety Monitoring Board (DSMB).
  - Have representatives from the Developing Countries Vaccine Manufacturers Network (DCVMN) and the International Federation of Pharmaceutical Manufacturers & Associations (IFPMA)

## PRE-DECISIONAL – FOR DISCUSSION

- Mechanism for fair allocation of products also being developed; using vaccines pillar as a test case.

### **Structure and Governance:**

- Each pillar led by: two co-conveners working with WHO ADG-level person.
  - Vaccines: Co-chairs - CEPI (Dr. Richard Hatchett), Gavi (Dr. Seth Berkley) + (WHO; Dr. Soumya in-house lead for vaccines)
  - Therapeutics: Co-chairs: UNITAID, Wellcome Trust + (WHO; *Mariangela Simao in-house lead*)
  - Diagnostics: Co-chairs: Global Fund, FIND + (WHO; *ADG/Hannan Balkhy in house lead*)
  - Health Systems: Co-chairs- Global Fund, World Bank + (WHO)
- Each pillar is establishing its own structure and work plan with key deliverables for each partner agency.
- Principals Group created within each pillar, consisting of principals from each agency; runs the pillar's workplan and deconflicts when issues cannot be resolved within the pillar; any group can escalate to Principals Group. To date, issues have been resolved within the pillars and through consensus; no escalation yet. Within the vaccine pillar in particular, if there is conflict or resolution needed, COVAX Coordinating Mechanism (CCM) will bring in the Chairs of Boards of CEPI and GAVI to get things resolved and move as fast as possible
- Each pillar and the health systems group has specific work streams with authority for some decision-making; each led by an agency (e.g., for vaccines, R&D: CEPI; access & allocation: WHO; procurement & delivery: GAVI); disagreements escalated within the pillar.
- Facilitation Group:<sup>1</sup> enables engagement with key players on financing, access, and allocation issues; holds weekly mission briefings to update countries and IHR contact point countries (includes Taiwan) on ACT-A activities; Hub coordinates between the pillar and partners (likely donor countries).
- Two special envoys appointed by DG Tedros: *Sir Andrew Witty* and *Dr. Ngozi Okonjo-Iweala*—have roles across pillars, advocacy, and integrating governments and outside institutional information.
- ACT-A is aiming to be transparent. While there is no formal role for countries on daily activities, it is answerable to WHO Member States. Role of governments in providing input and contributing to decision-making is under discussion. WHO recognizes that WHO Member State concurrence on access frameworks and allocation principles will be critical. Civil society has also expressed interest in engaging
- Trying to bring together a consolidated roadmap and set of priorities.

### **OWS Overview:**

#### **USG Participant/Presenter:**

*Dr. Kevin Bugin, OWS Therapeutics Program Manager*

- OWS officially announced a week ago.
- Whole of USG effort to protect us from future COVID-19 issues, providing funding, increased coordination, regulatory support for diagnostics, vaccines, and therapeutics.
- Structure: Leads of each 'pillar' within OWS: Bruce Tromberg (NIH) for diagnostics, Matt Hepburn (Department of Defense, DOD) for vaccines, and Janet Woodcock (FDA) for

---

<sup>1</sup> As of June 2020, renamed to "ACT Accelerator Council."

## PRE-DECISIONAL – FOR DISCUSSION

therapeutics. Moncef Slaoui (Chief Scientist) reports to Board of Directors. Leads and ‘pillars’ report up to the HHS and DoD Secretaries.

- Considering OWS is as complex as ACT Accelerator, probably helpful to show slides in next call.
- Diagnostics: Working on strategies for diagnostics deployment and tracking to contain outbreak.
- Therapeutics: Working to develop things as quickly as possible and to support research for clinical evaluation, such as animal models and assays. Recognize that investment is needed for manufacturing considering types of therapeutics being and need for major scale up. Have been able to prioritize the most promising therapeutics in the wide space of the portfolio. Neutralizing mAb needs acceleration—immediate priority for first wave of effort (beyond immunomodulators and antivirals). Have two master protocols for patient groups to set up trials: inpatient and outpatient. Want randomized control trial to have adequate supply and enrollment.
- Coordination: Convened summit with CEOs of neutralizing Ab manufacturers. Working to determine their capacity and interest in joining a master protocol. Manufacturers enthusiastic and interested in working together (e.g., if only two candidates show promise, can manufacturing capacity built for other companies also be used to manufacture the two).

### ACTIV Overview

**USG Presenter:** *David Wholley, Manager of Research Partnerships Division, FNIH*

- Foundation for the NIH is an independent 501c-3 to create private public partnerships to support the NIH. Structure allows for more flexibly to interact with industry.
- ACTIV launched on April 17, designed around four work streams: preclinical, therapeutic clinical testing, determining clinical trial capacity, and vaccines.
- Preclinical: Created an inventory of available master testing resources. Establishing a preclinical in vitro and in vivo testing network to test most promising reagents. Establishing publicly available database of standard procedures and data for preclinical compound data.
- Therapeutic clinical testing: Working closely with OWS. Accelerating COVID Therapeutic Trial (ACTT) and ACTT2.0. ACTT2.0 protocol currently enrolling and should reach full enrollment in 6 weeks. Looking to identify additional Contract Research Organizations (CROs) to link and support trial sites. Bayesian adaptive phase 2-3 progressive designed trials. Scheme for master protocol to test 3 immunomodulatory drugs (ACTIV1) not being tested elsewhere completed. Master protocol for anticoagulants being developed—working on establishing large trials. Planning de novo master protocol to test those not being done elsewhere—many antivirals likely.
- Determining clinical trial capacity: Conducted inside and outside NIH. Surveyed 49 major clinical trial networks, along with data on 8 CROs that can conduct vaccine and therapeutic sites. Resource for both clinical groups to identify sites and mechanisms and places to do the work. Identified 530 sites, mostly in the U.S. but some international. (June 15, 2020 Update: ACTIV has sent surveys to and collected information from 54 clinical trial networks representing over 600 sites. This information being used to prioritize sites for the master protocols to be launched through NIH networks and OWS.)
- Vaccine clinical group: Most work on planning master protocols and selecting sites moved to OWS, which group is supporting with an expert panel on safety questions, immune enhancement, endpoints, and policy on human challenge trials.

### **Potential Areas for Further Collaboration:**

- WHO interested in useful collaboration and beyond what is available in the media: learning about U.S. efforts to minimize duplication, especially vaccines; since USG and WHO will be looking at

## PRE-DECISIONAL – FOR DISCUSSION

similar products, harmonizing trial protocols regarding clinical definitions, end points, and lab protocols; coordinating on immunogenicity assays and endpoints activities; and naming reference labs for data sharing.

- NIH noted harmonizing vaccine protocols is more complex since candidates are very different, but can help make the right connections to facilitate information sharing with ACT Accelerator vaccine working group. FNIH explained that work is being done on trial designs and endpoints, which has been taken over by OWS. NIAID would be the better avenue.
- WHO requests
  - Information on vaccines, therapeutics, and diagnostics work in OWS would be helpful.
    - Sharing which vaccine candidates move to Phase 3 trials to know whether complimentary or duplicative.
      - NIH calls: Focused on therapeutics, but will be covering vaccines at some point; had a brief overview of ACTIV during last call.
    - Sharing information on specific clinical trial sites inside and outside the U.S. Interested in creating a global network of reference labs commissioned for standard assays, regardless of trial site location, to ensure compatibility and facilitate shipping of samples. WHO has mapped sites around the world for potential collaboration and to avoid duplication.
    - Sharing prioritization information on therapeutics—recognize that mAbs are most promising. Helpful if information on most promising candidates is publicly available since manufacturing capacity is a concern—many countries lack capacity.
      - FDA holds biweekly calls on comprehensive clinical trial database and can consider making public when leadership signs off the prioritization of candidates for therapeutics.
  - Holding a videoconference on the organizational schemes on ACT, ACTIV and OWS, focusing on two main streams: coordination (including identifying partners) and technical issues. Can map out how to work together on these issues in next call

### **Summary of Next Steps**

OGA to circulate notes and schedule a videoconference for next call to share the organizational structures ACT Accelerator, OWS, and ACTIV. Will need to determine the individual topics that need to be addressed in smaller technical teams.

## PRE-DECISIONAL – FOR DISCUSSION

### USG-WHO DIALOGUE ON COVID-19 MCMs

FRIDAY, 10 JULY 2020

15:00 – 15:45 (Geneva) | 9:00 – 9:45 ET

#### NOTES

##### Participants:

**WHO:** *Dr. Soumya Swaminathan, Chief Scientist; Dr. Bruce Aylward, Secretariat for ACT Accelerator; Dr. Mariangela Simão, Assistant Director-General for Drug Access, Vaccines and Pharmaceuticals;*

**USG:** ASPR: *Christopher Houchens, Division Director of the CBRN Program;* CDC: *Rita Helfand, Senior Advisor for Science in NCEZID/Office of the Director; Terri Hyde, Global Immunization Division;* FDA: *David Cho, Senior Scientist for Emerging & Pandemic Threat Preparedness, CBER; Michael Mair;* NIH: *Christine Sizemore, Director of the Division of International Relations, Fogarty International Center, NIH; Sarah Scharf, Regional Program Director, Europe and Multilateral Organizations, Fogarty International Center, NIH;* OGA: *Garrett Grigsby, Director of Global Affairs; Larry Kerr, Director of Pandemic and Emerging Threats (PET); Emily Bleimund, Director of Trade and Health;* OWS: *Dr. Kevin Bugin, Director of Special Programs, Office of New Drugs, CDER, and OWS Therapeutics Program Manager;*

**Objective of USG-WHO Dialogue:** To support collaboration between USG/HHS and WHO on ensuring and addressing foreseeable global challenges to access to safe and effective MCMs, facilitating the exchange of information on the ACT Accelerator and Operation Warp Speed (OWS).

#### ACT Accelerator Updates

**Speakers:** *Dr. Bruce Aylward; Dr. Soumya Swaminathan; Dr. Mariangela Simão*

- Dr. Bruce Aylward continues to coordinate the hub of ACT-A, ensuring the different pillars (vaccines [WHO lead: Dr. Soumya Swaminathan], therapeutics [WHO lead: Dr. Mariangela Simão], and diagnostics) have what they need to be successful.
- WHO noted that the case for ACT-A is stronger than it ever was as countries emerge from lockdowns and look to get societies and economies operational again.
- WHO believes the ACT-A infrastructure is working and has a good track record of accomplishments. ACT-A has integrated and leveraged existing international health architecture (such as GAVI and CEPI) to enable these accomplishments. More than 10 million tests have been procured, they are moving fast on securing therapeutics, and they have broad, growing vaccine portfolio.
- The launch of the COVID-19 Vaccine Global Access (COVAX) Facility under the vaccine pillar has resulted in a lot of interest, particularly from High- and Upper Middle-income countries.
- There has been positive engagement on the Global Allocation Framework that is being developed to ensure equitable and fair allocation of COVID-19 products through the ACT Accelerator. The access and allocation work stream has also started engaging with the therapeutics pillar to discuss how the framework can be expanded to address therapeutics in addition to vaccine. The Allocation Framework has also been shared with Victor Dzau at the National Academies of Science, Engineering, and Medicine (NASEM) at his request.
- Major challenges faced:

## PRE-DECISIONAL – FOR DISCUSSION

- Financing
- Nationalization of vaccine- The ACT Accelerator needs access to 2 billion doses of vaccine and buy-in to the COVAX Facility to make the construct work. ACT needs to address issues around nationalization of vaccine to avoid what happened during pandemic H1N1 where a select number of developed countries had access to vaccine before the rest of the world.
- WHO has good visibility of what is being developed by China.

### **Operation Warp Speed**

**Speaker:** *Dr. Kevin Bugin*

- Therapeutics: Hoping to launch two master protocols later this month - ACTIV2 for ambulatory patients (2 monoclonal products), ACTIV3 in inpatient setting (1-2 monoclonal products), tracking at least 5 other products that could be ready to enroll in August/September
- Vaccines: There is a lot of news coming out about the OWS products (AstraZeneca, Moderna, Janssen, Novavax), continue to support development and manufacturing scale-up
- Diagnostics: largely focused on expanding supply and availability across the U.S., and ensuring contact tracing in the U.S. to mitigate any additional outbreaks.

### **Summary of Next Steps**

- OGA to follow-up within the USG and OWS on the action items below.
  - **ACTION:** WHO expressed interest in the U.S. and WHO sharing clinical intelligence in an effort to save time and put resources toward promising activities, especially as we've seen recently how AstraZeneca and Moderna have both pushed back their timelines. Of note, within the SOLIDARITY trial, WHO is looking at ways in coordination with CEPI to test vaccine candidates from smaller companies. WHO has good information exchange with NIH in terms of trial design, animal models, etc., and engaged with SWAT teams in CEPI.
  - **ACTION:** WHO would like to explore some “what if?” scenarios around availability of COVID-19 MCM products to help with planning COVID-19 MCM product allocation/distribution as products become available (e.g. in the event all vaccine development efforts are successful, how can WHO and US work to quickly and efficiently distribute surplus product?)
  - **ACTION:** WHO would like to understand U.S. allocation plans and how they are being developed, particularly what CDC and NASEM's involvement is.
- OGA to circulate notes and schedule the next teleconference. The next call will focus on a deeper dive of the Allocation Framework (US will provide written input by July 14).

<b>From:</b>	Kerr, Lawrence (HHS/OS/OGA) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE>
<b>To:</b>	<p>Boucher, David (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=41293945651d475fa0413062a819aac5-Boucher, Da &lt;David.Boucher@hhs.gov&gt;;</p> <p>Zarrabian, Amanda (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0c650b07917242129deb0f942bb4cc10-Zarrabian, &lt;amanda.zarrabian@hhs.gov&gt;;</p> <p>Ayala, Ana (OS/ASPR/SPPR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=80a408be55b14221a42c2b91002d6bf7-Ayala, Ana &lt;Ana.Ayala@hhs.gov&gt;;</p> <p>Biggins, Julia E CTR (USA) &lt;julia.e.biggins.ctr@mail.mil&gt;;</p> <p>Birnkrant, Debra B (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=57a9d96c3a884fc0808702ed5d3a7b4c-debra.birnkrant &lt;Debra.Birnkrant@fda.hhs.gov&gt;;</p> <p>Carter, Rosalind J. (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f16dc874b53240f7a323b1246027e71c-roosalind.ca &lt;rdc6@cdc.gov&gt;;</p> <p>Cho, David S (CBER) (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d79853f418ac488c9cd10b70d1e2b0f1-david.cho.f &lt;David.Cho@fda.hhs.gov&gt;;</p> <p>Cossaboom, Caitlin (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2063b181b77a49a4b498ee8b7afa7478-caitlin.cossaboom &lt;nrm9@cdc.gov&gt;;</p> <p>Wolfe, Daniel (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=01933911e406492fbd7f86e0235944d7-Wolfe, Dani &lt;Daniel.Wolfe2@hhs.gov&gt;;</p> <p>Deussing, Eric (CDC/OD/OCS) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d0e1290339b14ad6844f56b40d0c6661-eric.deussing &lt;ncu0@cdc.gov&gt;;</p> <p>Diaz-Diaz, Carol (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3b2b5f0685df417b9e2a0018c6fd251f-Diaz-Diaz, &lt;Carol.Diaz-diaz@hhs.gov&gt;;</p> <p>Disbrow, Gary (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0fd5845defda4dc0bb45f8fac629cf09-Disbrow, Ga &lt;Gary.Disbrow@hhs.gov&gt;;</p> <p>Higgs, Elizabeth (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ce3e542539154ce59df4bedbc8741ebf-elizabeth.h &lt;ehiggs@niaid.nih.gov&gt;;</p> <p>Fitter, David L. (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=fbd8cb8b5f054c98a5d907ce4a8f2bde-david.fitter &lt;vid3@cdc.gov&gt;;</p> <p>Gentles, Andrew (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=cd01d5eb6d814cbcb9d6547155eb7596-andrew.gentles &lt;Andrew.Gentles@fda.hhs.gov&gt;;</p> <p>Hassell, David (Chris) (OS/ASPR/IO) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=aedbf0ff96e4119ac7a3b3abaf71a3d-Hassell, Da &lt;David.Hassell@hhs.gov&gt;;</p> <p>Schiltz, Helen (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=89f2008d8dd04f5ea7695f37929f6df7-helen.schiltz &lt;hschiltz@niaid.nih.gov&gt;;</p> <p>Marston, Hilary (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=93be476c17024bbcb5b44add01fe6a8-hilary.mars &lt;hilary.marston@nih.gov&gt;;</p> <p>Hughes, Craig (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a4ade4d09cb44bb995d03c84d1f0746-Hughes, Cra &lt;Craig.Hughes@hhs.gov&gt;;</p> <p>Damon, Inger K. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0200deb66dbc44f5aca3f26ed15cdc6a-Damon, Inge &lt;iad7@cdc.gov&gt;;</p> <p>Inger-Marie Vilcins (ivilcins@hivresearch.org) &lt;ivilcins@hivresearch.org&gt;;</p> <p>Walldorf, Jenny A. (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e2813aaef1f94f96bb247826243e3811-jenny.wall &lt;igf4@cdc.gov&gt;;</p> <p>Kahn, Emily B. (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ff8628c4e15948b3b03805d50c3d0ee-Kahn, Emily</p>



<ebk9@cdc.gov>;  
 Bok, Karin (NIH/VRC) [E] /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=6d1dc469e6684003a0a89b132e8b7916-karin.bok.n  
 <karin.bok@nih.gov>;  
 Kayvon Modjarrad <kmodjarrad@hivresearch.org>;  
 Kishimori, Jennifer M COL USARMY OSD OUSD P-R (US) (jennifer.m.kishimori.mil@mail.mil)  
 <jennifer.m.kishimori.mil@mail.mil>;  
 Ledgerwood, Julie (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=45778324d47644eeb9fced6acbf5108f-julie.marti  
 <JUMARTIN@niaid.nih.gov>;  
 Marinissen, Maria (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=5d42fb4d94b041ee88e4f7dd5743e893-Marinissen,  
 <Maria.Marinissen@hhs.gov>;  
 Gruber, Marion (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub  
 <Marion.Gruber@fda.hhs.gov>;  
 Marks, Peter (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=df56588b970c43c8a9a2b9b31406746c-peter.marks  
 <Peter.Marks@fda.hhs.gov>;  
 Meltzer, Martin I. (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=7d4e5aa77412403b9ae866e4c8312e79-Meltzer, Ma  
 <qzm4@cdc.gov>;  
 Choi, Mary Joung (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=c9f8d54090194cf7be8e49b80bca7328-mary.choi.c  
 <whz2@cdc.gov>;  
 Merchlinsky, Michael (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=29a4736917274e3783b5570c29518cdf-Merchlinsky  
 <Michael.Merchlinsky@hhs.gov>;  
 Mair, Michael (FDA/OC) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=f3e2b23223bc4a1abecf698a4122f6c3-michael.mai  
 <Michael.Mair@fda.hhs.gov>;  
 Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative  
 Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=62643d5586b14f1798171ce903c12ea4-Montgomery,  
 <ztq9@cdc.gov>;  
 Moudy, Robin (OS/ASPR/SPPR) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=d421d3e0f6474bc3857583cfc5870d69-Moudy, Robi  
 <Robin.Moudy@hhs.gov>;  
 Nelson Michael <nmichael@hivresearch.org>;  
 Bryant, Paula (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=b4fe56a126fc4da2a4a187dece3928e2-paula.bryan  
 <paula.bryant@nih.gov>;  
 Pawlicki, Nathan J CTR DHA MED COUNTERMEASURES (US) (nathan.j.pawlicki.ctr@mail.mil)  
 <nathan.j.pawlicki.ctr@mail.mil>;  
 Krause, Philip (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau  
 <Philip.Krause@fda.hhs.gov>;  
 Arthur, Ray (CDC/DDPHSIS/CGH/DGHP) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=855f8ca30adc4a59906fd6647ac8371d-Arthur, Ray  
 <rca8@cdc.gov>;  
 Helfand, Rita (CDC/DDID/NCEZID/OD) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=28a17ce03de24abbb3e9c9e1363c4017-Helfand, Ri  
 <rzh7@cdc.gov>;  
 Sabourin, Carol (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=46ae47e8f4b34a6e9d2804b44e192651-Sabourin, C  
 <Carol.Sabourin@hhs.gov>;  
 Samuel, Anita (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=9238fa3a950b4c118cad476c0ef01c40-anita.samue  
 <kyp8@cdc.gov>;  
 Simon, David (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=a7d46815edf04bb28ac3ea25ff3d3268-Simon, Davi  
 <David.Simon@hhs.gov>;  
 Styrt, Barbara (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=fd3d53d2e3994f678050e141d6a0b9db-barbara.sty  
 <Barbara.Styrt@fda.hhs.gov>;  
 Suzanne Mate <suzanne.e.mate.mil@mail.mil>;  
 Taylor, Kimberly (NIH/NIAID) [E] <kimberly.taylor3@nih.gov>;

	<p>Taylor, Marva (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=34ad843b32e14d9fb5e825646336d169-Taylor, Mar &lt;Marva.Taylor@hhs.gov&gt;;</p> <p>Hyde, Terri (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=653839b51d4442a7b5ad95e605761104-Hyde, Terri &lt;tkh4@cdc.gov&gt;;</p> <p>Thompson, Elizabeth (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ebdef60dc3794a8db0daf295649d05f0-elizabeth.t &lt;Elizabeth.Thompson@fda.hhs.gov&gt;;</p> <p>Turley, Danielle (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=befe52d068424520bd5f5eddb942ff4d-Turley, Dan &lt;Danielle.Turley@hhs.gov&gt;;</p> <p>Walke, Henry (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a4fec6d678cea4ee7a1436ed6ec669c27-Walke, Henr &lt;hfw3@cdc.gov&gt;;</p> <p>Walker, Robert (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7a02e128c60f4a7195532a1545af9556-Walker, Rob &lt;Robert.Walker@hhs.gov&gt;;</p> <p>Weinberger, Collin (OS/OGA) (CTR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=641554fc7843407585827af5898d9c26-Weinberger, &lt;Collin.Weinberger@hhs.gov&gt;;</p> <p>Yu, Yon C. (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=bdd97c36ce040d8adc6dc54932741bd-Yu, Yon C. &lt;fkb8@cdc.gov&gt;</p>
<b>Subject:</b>	RE: Ebola MCM Scientific WG - Agenda (10/8)
<b>Date:</b>	2019/10/13 10:33:00
<b>Priority:</b>	Normal
<b>Type:</b>	Note

Followed by:

Congo Plans to Start Using J&J's Ebola Vaccine From Next Month

Oct 12 2019, 9:48 PM Oct 13 2019, 4:16 PM October 12 2019, 9:48 PM October 13 2019, 4:16 PM

(Bloomberg) -- The Democratic Republic of Congo will distribute a second vaccination for Ebola from Johnson & Johnson at the beginning of November.

The vaccine will first be distributed to two communes in Goma, the trading hub on the border with Rwanda, Dr. Jean-Jacques Muyembe, the head of the country's Ebola response effort, told reporters Saturday in the capital, Kinshasa. More than 64,000 people cross the border there each day, he said.

Johnson & Johnson will progressively ship about 200,000 doses of the vaccine to Rwanda and another 500,000 to Congo starting Oct. 18, Muyembe said.

"Our goal is to create an immunological curtain that will prevent the virus from leaving the infected zone to the uninfected zone," he said.

The Ebola outbreak, which was first announced in August 2018, has killed 2,146 people as of Oct. 10. Another vaccine manufactured by Merck & Co., has already been given to more than 230,000 people since August 2018.

---

**From:** Kerr, Lawrence (HHS/OS/OGA)

**Sent:** Sunday, October 13, 2019 10:27 AM

**To:** Boucher, David (OS/ASPR/BARDA) <David.Boucher@hhs.gov>; Zarrabian, Amanda (OS/ASPR/BARDA) <amanda.zarrabian@hhs.gov>; Ayala, Ana (OS/ASPR/SPPR) <Ana.Ayala@hhs.gov>; Biggins, Julia E CTR (USA) <julia.e.biggins.ctr@mail.mil>; Birnkrant, Debra B (FDA/CDER) <Debra.Birnkrant@fda.hhs.gov>; Carter, Rosalind J. (CDC/DDPHSIS/CGH/GID) <rdc6@cdc.gov>; Cho, David S (CBER) (FDA/CDER) <David.Cho@fda.hhs.gov>; Cossaboom, Caitlin (CDC/DDID/NCEZID/DHCPP) <nrm9@cdc.gov>; Wolfe, Daniel (OS/ASPR/BARDA) <Daniel.Wolfe2@hhs.gov>; Deussing, Eric (CDC/OD/OCS) <ncu0@cdc.gov>; Diaz-Diaz, Carol (OS/ASPR/BARDA) <Carol.Diaz-diaz@hhs.gov>; Disbrow, Gary (OS/ASPR/BARDA) <Gary.Disbrow@hhs.gov>; Higgs, Elizabeth (NIH/NIAID) [E] <ehiggs@niaid.nih.gov>; Fitter, David L. (CDC/DDPHSIS/CGH/GID) <vid3@cdc.gov>; Gentles, Andrew (FDA/CDER) <Andrew.Gentles@fda.hhs.gov>; Hassell, David (Chris) (OS/ASPR/IO) <David.Hassell@hhs.gov>; Schiltz, Helen (NIH/NIAID) [E] <hschiltz@niaid.nih.gov>; Marston, Hilary (NIH/NIAID) [E] <hilary.marston@nih.gov>; Hughes, Craig (OS/ASPR/BARDA) <Craig.Hughes@hhs.gov>; Damon, Inger K. (CDC/DDID/NCEZID/DHCPP) <iad7@cdc.gov>; Inger-Marie Vilcins (ivilcins@hivresearch.org) <ivilcins@hivresearch.org>; Walldorf, Jenny A. (CDC/DDPHSIS/CGH/GID) <igf4@cdc.gov>; Kahn, Emily B. (CDC/DDID/NCEZID/DPEI) <ebk9@cdc.gov>; Bok, Karin (NIH/VRC) [E] <karin.bok@nih.gov>; Kayvon Modjarrad <kmodjarrad@hivresearch.org>; Kishimori, Jennifer M COL USARMY OSD OUSD P-R (US) (jennifer.m.kishimori.mil@mail.mil) <jennifer.m.kishimori.mil@mail.mil>; Ledgerwood, Julie (NIH/NIAID) [E] <JUMARTIN@niaid.nih.gov>; Marinissen, Maria (HHS/OS/OGA) <Maria.Marinissen@hhs.gov>; Gruber, Marion (FDA/CDER) <Marion.Gruber@fda.hhs.gov>; Marks, Peter (FDA/CDER) <Peter.Marks@fda.hhs.gov>; Meltzer, Martin I. (CDC/DDID/NCEZID/DPEI) <qzm4@cdc.gov>; Choi, Mary Joung (CDC/DDID/NCEZID/DHCPP) <whz2@cdc.gov>; Merchlinsky, Michael (OS/ASPR/BARDA) <Michael.Merchlinsky@hhs.gov>; Mair, Michael (FDA/OC) <Michael.Mair@fda.hhs.gov>; Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) <ztq9@cdc.gov>; Moudy, Robin (OS/ASPR/SPPR) <Robin.Moudy@hhs.gov>; Nelson Michael <nsmichael@hivresearch.org>; Bryant, Paula (NIH/NIAID) [E] <paula.bryant@nih.gov>; Pawlicki, Nathan J CTR DHA MED COUNTERMEASURES (US) (nathan.j.pawlicki.ctr@mail.mil) <nathan.j.pawlicki.ctr@mail.mil>; Krause, Philip (FDA/CDER) <Philip.Krause@fda.hhs.gov>; Arthur, Ray (CDC/DDPHSIS/CGH/DGHP) <rca8@cdc.gov>; Helfand, Rita (CDC/DDID/NCEZID/OD) <rrzh7@cdc.gov>; Sabourin, Carol (OS/ASPR/BARDA) <Carol.Sabourin@hhs.gov>; Samuel, Anita (CDC/DDPHSIS/CGH/GID) <kyp8@cdc.gov>; Simon, David (OS/ASPR/BARDA) <David.Simon@hhs.gov>; Styrt, Barbara (FDA/CDER) <Barbara.Styrt@fda.hhs.gov>; Suzanne Mate <suzanne.e.mate.mil@mail.mil>; Taylor, Kimberly (NIH/NIAID) [E] <kimberly.taylor3@nih.gov>; Taylor, Marva (OS/ASPR/BARDA) <Marva.Taylor@hhs.gov>; Hyde, Terri (CDC/DDPHSIS/CGH/GID) <tkh4@cdc.gov>; Thompson, Elizabeth (FDA/CDER) <Elizabeth.Thompson@fda.hhs.gov>; Turley, Danielle (OS/ASPR/BARDA) <Danielle.Turley@hhs.gov>; Walke, Henry (CDC/DDID/NCEZID/DPEI) <hfw3@cdc.gov>; Walker, Robert (OS/ASPR/BARDA) <Robert.Walker@hhs.gov>; Weinberger, Collin (OS/OGA) (CTR) <Collin.Weinberger@hhs.gov>; Yu, Yon C. (CDC/DDID/NCEZID/DPEI) <fkb8@cdc.gov>

**Subject:** RE: Ebola MCM Scientific WG - Agenda (10/8)

Just out:

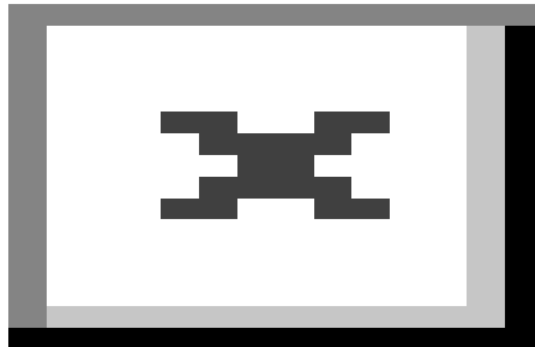
## Rwanda planning massive vaccination campaign against Ebola



James Karuhanga By

James Karuhanga

Published : October 13, 2019 | Updated : October 13, 2019



<https://www.newtimes.co.rw/sites/default/files/styles/mystyle/public/main/articles/2019/10/12/dr-diane-gashumba.jpg>

Dr Diane Gashumba, the Minister for Health, speaks at a recent meeting. / Sam Ngendahimana

Rwanda is planning a big vaccination campaign against the Ebola Virus Disease (EBV) for adults, adolescents, and children aged two years living within the vicinity of a possible Ebola outbreak.

A statement released after Thursday's Cabinet meeting indicates that the Minister of Health, Dr. Diane Gashumba, informed the Cabinet about this development.

By press time Saturday, however, efforts to get details such as when the campaign could start, how many people would be vaccinated, and what vaccine is to be used, from the Minister or media officers under the Ministry were futile.

The latest reports indicate that international efforts to halt the Ebola epidemic in DR Congo have made significant progress, with the virus now contained to a much smaller geographical area that is mainly rural in the east of the country.

The latest Ebola epidemic in the country began in August 2018 and it has killed 2,144 people, so far, according to the World Health Organisation.

In August, Rwanda started talks to acquire at least 100,000 doses of an Ebola vaccine for a mass vaccination campaign. At the time, the Ministry of Health confirmed that the government was fast-tracking negotiations to buy doses of an Ebola vaccine.

Malick Kayumba, the Spokesperson of the Ministry of Health confirmed recently that the deal was still under negotiations, and stressed that Rwanda was "ready to do whatever is possible to protect its citizens."

The BBC reported sometime back that more than 60,000 traders in eastern DR Congo who cross the border regularly into Rwanda and Uganda are to be vaccinated.

It was not clear when exactly the mass vaccination campaign would start and the cost associated as well as the type of vaccine to be used but media reports then suggested that the experimental vaccine was backed by international health experts, including the World Health Organisation.

The vaccine in question, the BBC reported, is produced by Johnson & Johnson, American multinational medical devices, pharmaceutical, and is different from the single-dose Merck vaccine that has been used over the past year in DR Congo.

The World Health Organisation Director-General, Dr. Tedros Adhanom Ghebreyesus in August announced that they had an Ebola vaccine that is more than 97 percent effective and treatments that are more than 90 percent effective if used early enough.

Earlier, the UN health agency had announced that the co-sponsors of the Ebola therapeutics trial in DR Congo had announced advances that will bring patients a better chance of survival. Two out of the four drugs being tested were found to be effective in treating Ebola.

No case of Ebola has been reported in Rwanda but the government intensified preventive measures soon after the outbreak in DR Congo was confirmed.

In July, the WHO declared the Ebola crisis in the DR Congo a public health emergency of international concern (PHEIC), urging the international community to step up its support for a response.

The PHEIC is a formal declaration by the UN agency in charge of world health matters of an extraordinary event which is determined to constitute a public health risk to other States through the international spread of disease.

In August, Rwanda and DR Congo Health Ministers set up joint strategies to prevent the spread of Ebola.

---

**From:** Boucher, David (OS/ASPR/BARDA) <[David.Boucher@hhs.gov](mailto:David.Boucher@hhs.gov)>

**Sent:** Tuesday, October 8, 2019 10:22 AM

**To:** Zarrabian, Amanda (OS/ASPR/BARDA) <[amanda.zarrabian@hhs.gov](mailto:amanda.zarrabian@hhs.gov)>; Ayala, Ana (OS/ASPR/SPPR) <[Ana.Ayala@hhs.gov](mailto:Ana.Ayala@hhs.gov)>; Biggins, Julia E CTR (USA) <[julia.e.biggins.ctr@mail.mil](mailto:julia.e.biggins.ctr@mail.mil)>; Birnkrant, Debra B (FDA/CDER) <[Debra.Birnkrant@fda.hhs.gov](mailto:Debra.Birnkrant@fda.hhs.gov)>; Carter, Rosalind J. (CDC/DDPHSIS/CGH/GID) <[rdoc6@cdc.gov](mailto:rdoc6@cdc.gov)>; Cho, David S (CBER) (FDA/CDER) <[David.Cho@fda.hhs.gov](mailto:David.Cho@fda.hhs.gov)>; Cossaboom, Caitlin (CDC/DDID/NCEZID/DHCPP) <[nrm9@cdc.gov](mailto:nrm9@cdc.gov)>; Wolfe, Daniel (OS/ASPR/BARDA) <[Daniel.Wolfe2@hhs.gov](mailto:Daniel.Wolfe2@hhs.gov)>; Deussing, Eric (CDC/OD/OCS) <[ncu0@cdc.gov](mailto:ncu0@cdc.gov)>; Diaz-Diaz, Carol (OS/ASPR/BARDA) <[Carol.Diaz-diaz@hhs.gov](mailto:Carol.Diaz-diaz@hhs.gov)>; Disbrow, Gary (OS/ASPR/BARDA) <[Gary.Disbrow@hhs.gov](mailto:Gary.Disbrow@hhs.gov)>; Higgs, Elizabeth (NIH/NIAID) [E] <[ehiggs@niaid.nih.gov](mailto:ehiggs@niaid.nih.gov)>; Fitter, David L. (CDC/DDPHSIS/CGH/GID) <[vid3@cdc.gov](mailto:vid3@cdc.gov)>; Gentles, Andrew (FDA/CDER) <[Andrew.Gentles@fda.hhs.gov](mailto:Andrew.Gentles@fda.hhs.gov)>; Hassell, David (Chris) (OS/ASPR/IO) <[David.Hassell@hhs.gov](mailto:David.Hassell@hhs.gov)>; Schiltz, Helen (NIH/NIAID) [E] <[hschiltz@niaid.nih.gov](mailto:hschiltz@niaid.nih.gov)>; Marston, Hilary (NIH/NIAID) [E] <[hilary.marston@nih.gov](mailto:hilary.marston@nih.gov)>; Hughes, Craig (OS/ASPR/BARDA) <[Craig.Hughes@hhs.gov](mailto:Craig.Hughes@hhs.gov)>; Damon, Inger K. (CDC/DDID/NCEZID/DHCPP) <[iad7@cdc.gov](mailto:iad7@cdc.gov)>; Inger-Marie Vilcins ([ivilcins@hivresearch.org](mailto:ivilcins@hivresearch.org)) <[ivilcins@hivresearch.org](mailto:ivilcins@hivresearch.org)>; Walldorf, Jenny A. (CDC/DDPHSIS/CGH/GID) <[igf4@cdc.gov](mailto:igf4@cdc.gov)>; Kahn, Emily B. (CDC/DDID/NCEZID/DPEI) <[ebk9@cdc.gov](mailto:ebk9@cdc.gov)>; Bok, Karin (NIH/VRC) [E] <[karin.bok@nih.gov](mailto:karin.bok@nih.gov)>; Kayvon Modjarrad <[kmodjarrad@hivresearch.org](mailto:kmodjarrad@hivresearch.org)>; Kishimori, Jennifer M COL USARMY OSD OUSD P-R (US) ([jennifer.m.kishimori.mil@mail.mil](mailto:jennifer.m.kishimori.mil@mail.mil)) <[jennifer.m.kishimori.mil@mail.mil](mailto:jennifer.m.kishimori.mil@mail.mil)>; Kerr, Lawrence (HHS/OS/OGA) <[Lawrence.Kerr@hhs.gov](mailto:Lawrence.Kerr@hhs.gov)>; Ledgerwood, Julie (NIH/NIAID) [E] <[jumartin@niaid.nih.gov](mailto:jumartin@niaid.nih.gov)>; Marinissen, Maria (HHS/OS/OGA) <[Maria.Marinissen@hhs.gov](mailto:Maria.Marinissen@hhs.gov)>; Gruber, Marion (FDA/CDER) <[Marion.Gruber@fda.hhs.gov](mailto:Marion.Gruber@fda.hhs.gov)>; Marks, Peter (FDA/CDER) <[Peter.Marks@fda.hhs.gov](mailto:Peter.Marks@fda.hhs.gov)>; Meltzer, Martin I. (CDC/DDID/NCEZID/DPEI) <[qzm4@cdc.gov](mailto:qzm4@cdc.gov)>; Choi, Mary Joung (CDC/DDID/NCEZID/DHCPP) <[whz2@cdc.gov](mailto:whz2@cdc.gov)>; Merchlinsky, Michael (OS/ASPR/BARDA) <[Michael.Merchlinsky@hhs.gov](mailto:Michael.Merchlinsky@hhs.gov)>; Mair,

Michael (FDA/OC) <Michael.Mair@fda.hhs.gov>; Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) <ztq9@cdc.gov>; Moudy, Robin (OS/ASPR/SPPR) <Robin.Moudy@hhs.gov>; Nelson Michael <nmichael@hivresearch.org>; Bryant, Paula (NIH/NIAID) [E] <Paula.bryant@nih.gov>; Pawlicki, Nathan J CTR DHA MED COUNTERMEASURES (US) (nathan.j.pawlicki.ctr@mail.mil) <nathan.j.pawlicki.ctr@mail.mil>; Krause, Philip (FDA/CBER) <Philip.Krause@fda.hhs.gov>; Arthur, Ray (CDC/DDPHSIS/CGH/DGHP) <rca8@cdc.gov>; Helfand, Rita (CDC/DDID/NCEZID/OD) <rz7@cdc.gov>; Sabourin, Carol (OS/ASPR/BARDA) <Carol.Sabourin@hhs.gov>; Samuel, Anita (CDC/DDPHSIS/CGH/GID) <kyp8@cdc.gov>; Simon, David (OS/ASPR/BARDA) <David.Simon@hhs.gov>; Styrt, Barbara (FDA/CDER) <Barbara.Styrt@fda.hhs.gov>; Suzanne Mate <suzanne.e.mate.mil@mail.mil>; Taylor, Kimberly (NIH/NIAID) [E] <kimberly.taylor3@nih.gov>; Taylor, Marva (OS/ASPR/BARDA) <Marva.Taylor@hhs.gov>; Hyde, Terri (CDC/DDPHSIS/CGH/GID) <tkh4@cdc.gov>; Thompson, Elizabeth (FDA/CDER) <Elizabeth.Thompson@fda.hhs.gov>; Turley, Danielle (OS/ASPR/BARDA) <Danielle.Turley@hhs.gov>; Walke, Henry (CDC/DDID/NCEZID/DPEI) <hfw3@cdc.gov>; Walker, Robert (OS/ASPR/BARDA) <Robert.Walker@hhs.gov>; Weinberger, Collin (OS/OGA) (CTR) <Collin.Weinberger@hhs.gov>; Yu, Yon C. (CDC/DDID/NCEZID/DPEI) <fkb8@cdc.gov>  
**Subject:** RE: Ebola MCM Scientific WG - Agenda (10/8)

Sorry, I lied about that being my last e-mail. Would be helpful if you had the link to the webex which is:

(b)(6)

Only going to be sharing the docs that have already been sent out so you won't miss anything if you'd rather not join the webex.

David

---

**From:** Boucher, David (OS/ASPR/BARDA)  
**Sent:** Tuesday, October 8, 2019 10:08 AM  
**To:** Amanda Zarrabian (OS/ASPR/BARDA) (amanda.zarrabian@hhs.gov) <amanda.zarrabian@hhs.gov>; Ayala, Ana (OS/ASPR/SPPR) <Ana.Ayala@hhs.gov>; Biggins, Julia E CTR (USA) <julia.e.biggins.ctr@mail.mil>; Birnkrant, Debra B (FDA/CDER) <Debra.Birnkrant@fda.hhs.gov>; Carter, Rosalind J. (CDC/DDPHSIS/CGH/GID) (rdc6@cdc.gov) <rdc6@cdc.gov>; Cho, David S (CBER) (FDA/CBER) <David.Cho@fda.hhs.gov>; Cossaboom, Caitlin (CDC/DDID/NCEZID/DHCPP) <nrm9@cdc.gov>; Daniel Wolfe (OS/ASPR/BARDA) (Daniel.Wolfe2@hhs.gov) <Daniel.Wolfe2@hhs.gov>; Deussing, Eric (CDC/OD/OCS) <ncu0@cdc.gov>; Diaz-Diaz, Carol (OS/ASPR/BARDA) <Carol.Diaz-diaz@hhs.gov>; Disbrow, Gary (OS/ASPR/BARDA) <Gary.Disbrow@hhs.gov>; Elizabeth (NIH/NIAID) Higgs [E] (ehiggs@niaid.nih.gov) <ehiggs@niaid.nih.gov>; Fitter, David L. (CDC/DDPHSIS/CGH/GID) <vid3@cdc.gov>; Gentles, Andrew (FDA/CDER) <Andrew.Gentles@fda.hhs.gov>; Hassell, David (Chris) (OS/ASPR/IO) <David.Hassell@hhs.gov>; Helen Schiltz (helen.schiltz@nih.gov) <helen.schiltz@nih.gov>; Hilary (NIH/NIAID) Marston [E] (hilary.marston@nih.gov) <hilary.marston@nih.gov>; Hughes, Craig (OS/ASPR/BARDA) <Craig.Hughes@hhs.gov>; Inger K. Damon (CDC/DDID/NCEZID/DHCPP) (iad7@cdc.gov) <iad7@cdc.gov>; Inger-Marie Vilcins (ivilcins@hivresearch.org) <ivilcins@hivresearch.org>; Jenny A. Walldorf (CDC/DDPHSIS/CGH/GID) (igf4@cdc.gov) <igf4@cdc.gov>; Kahn, Emily B. (CDC/DDID/NCEZID/DPEI) <ebk9@cdc.gov>; Karin (NIH/VR) Bok [E] (karin.bok@nih.gov) <karin.bok@nih.gov>; Kayvon Modjarrad <kmodjarrad@hivresearch.org>; Kishimori, Jennifer M COL USARMY OSD OUSD P-R (US) (jennifer.m.kishimori.mil@mail.mil) <jennifer.m.kishimori.mil@mail.mil>; Lawrence Kerr (HHS/OS/OGA) (Lawrence.Kerr@hhs.gov) <Lawrence.Kerr@hhs.gov>; Ledgerwood, Julie

(NIH/NIAID) [E] <[JUMARTIN@niaid.nih.gov](mailto:JUMARTIN@niaid.nih.gov)>; Marinissen, Maria (HHS/OS/OGA) <[Maria.Marinissen@hhs.gov](mailto:Maria.Marinissen@hhs.gov)>; Marion Gruber (FDA/CBER) ([Marion.Gruber@fda.hhs.gov](mailto:Marion.Gruber@fda.hhs.gov)) <[Marion.Gruber@fda.hhs.gov](mailto:Marion.Gruber@fda.hhs.gov)>; Marks, Peter (FDA/CBER) <[Peter.Marks@fda.hhs.gov](mailto:Peter.Marks@fda.hhs.gov)>; Martin I. Meltzer (CDC/DDID/NCEZID/DPEI) ([qzm4@cdc.gov](mailto:qzm4@cdc.gov)) <[qzm4@cdc.gov](mailto:qzm4@cdc.gov)>; Mary Joung Choi (CDC/DDID/NCEZID/DHCPP) ([whz2@cdc.gov](mailto:whz2@cdc.gov)) <[whz2@cdc.gov](mailto:whz2@cdc.gov)>; Merchlinsky, Michael (OS/ASPR/BARDA) <[Michael.Merchlinsky@hhs.gov](mailto:Michael.Merchlinsky@hhs.gov)>; Michael Mair (FDA/OC) ([Michael.Mair@fda.hhs.gov](mailto:Michael.Mair@fda.hhs.gov)) <[Michael.Mair@fda.hhs.gov](mailto:Michael.Mair@fda.hhs.gov)>; Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) <[ztq9@cdc.gov](mailto:ztq9@cdc.gov)>; Moudy, Robin (OS/ASPR/SPPR) <[Robin.Moudy@hhs.gov](mailto:Robin.Moudy@hhs.gov)>; Nelson Michael <[nmichael@hivresearch.org](mailto:nmichael@hivresearch.org)>; Paula (NIH/NIAID) Bryant [E] ([paula.bryant@nih.gov](mailto:paula.bryant@nih.gov)) <[paula.bryant@nih.gov](mailto:paula.bryant@nih.gov)>; Pawlicki, Nathan J CTR DHA MED COUNTERMEASURES (US) ([nathan.j.pawlicki.ctr@mail.mil](mailto:nathan.j.pawlicki.ctr@mail.mil)) <[nathan.j.pawlicki.ctr@mail.mil](mailto:nathan.j.pawlicki.ctr@mail.mil)>; Philip Krause (FDA/CBER) ([Philip.Krause@fda.hhs.gov](mailto:Philip.Krause@fda.hhs.gov)) <[Philip.Krause@fda.hhs.gov](mailto:Philip.Krause@fda.hhs.gov)>; Ray Arthur (CDC/DDPHSIS/CGH/DGHP) ([rca8@cdc.gov](mailto:rca8@cdc.gov)) <[rca8@cdc.gov](mailto:rca8@cdc.gov)>; Rita Helfand (CDC/DDID/NCEZID/OD) ([rz7@cdc.gov](mailto:rz7@cdc.gov)) <[rz7@cdc.gov](mailto:rz7@cdc.gov)>; Sabourin, Carol (OS/ASPR/BARDA) <[Carol.Sabourin@hhs.gov](mailto:Carol.Sabourin@hhs.gov)>; Samuel, Anita (CDC/DDPHSIS/CGH/GID) <[kyp8@cdc.gov](mailto:kyp8@cdc.gov)>; Simon, David (OS/ASPR/BARDA) <[David.Simon@hhs.gov](mailto:David.Simon@hhs.gov)>; Styrt, Barbara (FDA/CDER) <[Barbara.Styrt@fda.hhs.gov](mailto:Barbara.Styrt@fda.hhs.gov)>; Suzanne Mate <[suzanne.e.mate.mil@mail.mil](mailto:suzanne.e.mate.mil@mail.mil)>; Taylor, Kimberly (NIH/NIAID) [E] <[kimberly.taylor3@nih.gov](mailto:kimberly.taylor3@nih.gov)>; Taylor, Marva (OS/ASPR/BARDA) <[Marva.Taylor@hhs.gov](mailto:Marva.Taylor@hhs.gov)>; Terri Hyde (CDC/DDPHSIS/CGH/GID) ([tkh4@cdc.gov](mailto:tkh4@cdc.gov)) <[tkh4@cdc.gov](mailto:tkh4@cdc.gov)>; Thompson, Elizabeth (FDA/CDER) <[Elizabeth.Thompson@fda.hhs.gov](mailto:Elizabeth.Thompson@fda.hhs.gov)>; Turley, Danielle (OS/ASPR/BARDA) <[Danielle.Turley@hhs.gov](mailto:Danielle.Turley@hhs.gov)>; Walke, Henry (CDC/DDID/NCEZID/DPEI) <[hfw3@cdc.gov](mailto:hfw3@cdc.gov)>; Walker, Robert (OS/ASPR/BARDA) <[Robert.Walker@hhs.gov](mailto:Robert.Walker@hhs.gov)>; Weinberger, Collin (OS/OGA) (CTR) <[Collin.Weinberger@hhs.gov](mailto:Collin.Weinberger@hhs.gov)>; Yu, Yon C. (CDC/DDID/NCEZID/DPEI) <[fk8@cdc.gov](mailto:fk8@cdc.gov)>

**Subject:** RE: Ebola MCM Scientific WG - Agenda (10/8)

Last e-mail from me. I've attached Karin Bok's slides that will go along with the manufacturing slides I sent out earlier this morning. I'll also try to share my screen through webex if you'd like to follow along that way.

David

---

**From:** Boucher, David (OS/ASPR/BARDA)

**Sent:** Tuesday, October 8, 2019 9:07 AM

**To:** Amanda Zarrabian (OS/ASPR/BARDA) ([amanda.zarrabian@hhs.gov](mailto:amanda.zarrabian@hhs.gov)) <[amanda.zarrabian@hhs.gov](mailto:amanda.zarrabian@hhs.gov)>; Ayala, Ana (OS/ASPR/SPPR) <[Ana.Ayala@hhs.gov](mailto:Ana.Ayala@hhs.gov)>; Biggins, Julia E CTR (USA) <[julia.e.biggins.ctr@mail.mil](mailto:julia.e.biggins.ctr@mail.mil)>; Birnkrant, Debra B (FDA/CDER) <[Debra.Birnkrant@fda.hhs.gov](mailto:Debra.Birnkrant@fda.hhs.gov)>; Carter, Rosalind J. (CDC/DDPHSIS/CGH/GID) ([rdc6@cdc.gov](mailto:rdc6@cdc.gov)) <[rdc6@cdc.gov](mailto:rdc6@cdc.gov)>; Cho, David S (CBER) (FDA/CBER) <[David.Cho@fda.hhs.gov](mailto:David.Cho@fda.hhs.gov)>; Cossaboom, Caitlin (CDC/DDID/NCEZID/DHCPP) <[nrm9@cdc.gov](mailto:nrm9@cdc.gov)>; Daniel Wolfe (OS/ASPR/BARDA) ([Daniel.Wolfe2@hhs.gov](mailto:Daniel.Wolfe2@hhs.gov)) <[Daniel.Wolfe2@hhs.gov](mailto:Daniel.Wolfe2@hhs.gov)>; Deussing, Eric (CDC/OD/OCS) <[ncu0@cdc.gov](mailto:ncu0@cdc.gov)>; Diaz-Diaz, Carol (OS/ASPR/BARDA) <[Carol.Diaz-diaz@hhs.gov](mailto:Carol.Diaz-diaz@hhs.gov)>; Disbrow, Gary (OS/ASPR/BARDA) <[Gary.Disbrow@hhs.gov](mailto:Gary.Disbrow@hhs.gov)>; Elizabeth (NIH/NIAID) Higgs [E] ([ehiggs@niaid.nih.gov](mailto:ehiggs@niaid.nih.gov)) <[ehiggs@niaid.nih.gov](mailto:ehiggs@niaid.nih.gov)>; Fitter, David L. (CDC/DDPHSIS/CGH/GID) <[vid3@cdc.gov](mailto:vid3@cdc.gov)>; Gentles, Andrew (FDA/CDER) <[Andrew.Gentles@fda.hhs.gov](mailto:Andrew.Gentles@fda.hhs.gov)>; Hassell, David (Chris) (OS/ASPR/IO) <[David.Hassell@hhs.gov](mailto:David.Hassell@hhs.gov)>; Helen Schiltz ([helen.schiltz@nih.gov](mailto:helen.schiltz@nih.gov)) <[helen.schiltz@nih.gov](mailto:helen.schiltz@nih.gov)>; Hilary (NIH/NIAID) Marston [E] ([hilary.marston@nih.gov](mailto:hilary.marston@nih.gov)) <[hilary.marston@nih.gov](mailto:hilary.marston@nih.gov)>; Hughes, Craig (OS/ASPR/BARDA) <[Craig.Hughes@hhs.gov](mailto:Craig.Hughes@hhs.gov)>; Inger K. Damon (CDC/DDID/NCEZID/DHCPP) ([iad7@cdc.gov](mailto:iad7@cdc.gov)) <[iad7@cdc.gov](mailto:iad7@cdc.gov)>; Inger-Marie Vilcins ([ivilcins@hivresearch.org](mailto:ivilcins@hivresearch.org)) <[ivilcins@hivresearch.org](mailto:ivilcins@hivresearch.org)>; Jenny A. Walldorf (CDC/DDPHSIS/CGH/GID) ([igf4@cdc.gov](mailto:igf4@cdc.gov)) <[igf4@cdc.gov](mailto:igf4@cdc.gov)>;

Kahn, Emily B. (CDC/DDID/NCEZID/DPEI) <[ebk9@cdc.gov](mailto:ebk9@cdc.gov)>; Karin (NIH/VRC) Bok [E] ([karin.bok@nih.gov](mailto:karin.bok@nih.gov)) <[karin.bok@nih.gov](mailto:karin.bok@nih.gov)>; Kayvon Modjarrad <[kmodjarrad@hivresearch.org](mailto:kmodjarrad@hivresearch.org)>; Kishimori, Jennifer M COL USARMY OSD OUSD P-R (US) ([jennifer.m.kishimori.mil@mail.mil](mailto:jennifer.m.kishimori.mil@mail.mil)) <[jennifer.m.kishimori.mil@mail.mil](mailto:jennifer.m.kishimori.mil@mail.mil)>; Lawrence Kerr (HHS/OS/OGA) ([Lawrence.Kerr@hhs.gov](mailto:Lawrence.Kerr@hhs.gov)) <[Lawrence.Kerr@hhs.gov](mailto:Lawrence.Kerr@hhs.gov)>; Ledgerwood, Julie (NIH/NIAID) [E] <[JUMARTIN@niaid.nih.gov](mailto:JUMARTIN@niaid.nih.gov)>; Marinissen, Maria (HHS/OS/OGA) <[Maria.Marinissen@hhs.gov](mailto:Maria.Marinissen@hhs.gov)>; Marion Gruber (FDA/CBER) ([Marion.Gruber@fda.hhs.gov](mailto:Marion.Gruber@fda.hhs.gov)) <[Marion.Gruber@fda.hhs.gov](mailto:Marion.Gruber@fda.hhs.gov)>; Marks, Peter (FDA/CBER) <[Peter.Marks@fda.hhs.gov](mailto:Peter.Marks@fda.hhs.gov)>; Martin I. Meltzer (CDC/DDID/NCEZID/DPEI) ([gzm4@cdc.gov](mailto:gzm4@cdc.gov)) <[gzm4@cdc.gov](mailto:gzm4@cdc.gov)>; Mary Joung Choi (CDC/DDID/NCEZID/DHCPP) ([whz2@cdc.gov](mailto:whz2@cdc.gov)) <[whz2@cdc.gov](mailto:whz2@cdc.gov)>; Merchlinsky, Michael (OS/ASPR/BARDA) <[Michael.Merchlinsky@hhs.gov](mailto:Michael.Merchlinsky@hhs.gov)>; Michael Mair (FDA/OC) ([Michael.Mair@fda.hhs.gov](mailto:Michael.Mair@fda.hhs.gov)) <[Michael.Mair@fda.hhs.gov](mailto:Michael.Mair@fda.hhs.gov)>; Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) <[ztq9@cdc.gov](mailto:ztq9@cdc.gov)>; Moudy, Robin (OS/ASPR/SPPR) <[Robin.Moudy@hhs.gov](mailto:Robin.Moudy@hhs.gov)>; Nelson Michael <[nmichael@hivresearch.org](mailto:nmichael@hivresearch.org)>; Paula (NIH/NIAID) Bryant [E] ([paula.bryant@nih.gov](mailto:paula.bryant@nih.gov)) <[paula.bryant@nih.gov](mailto:paula.bryant@nih.gov)>; Pawlicki, Nathan J CTR DHA MED COUNTERMEASURES (US) ([nathan.j.pawlicki.ctr@mail.mil](mailto:nathan.j.pawlicki.ctr@mail.mil)) <[nathan.j.pawlicki.ctr@mail.mil](mailto:nathan.j.pawlicki.ctr@mail.mil)>; Philip Krause (FDA/CBER) ([Philip.Krause@fda.hhs.gov](mailto:Philip.Krause@fda.hhs.gov)) <[Philip.Krause@fda.hhs.gov](mailto:Philip.Krause@fda.hhs.gov)>; Ray Arthur (CDC/DDPHSIS/CGH/DGHP) ([rca8@cdc.gov](mailto:rca8@cdc.gov)) <[rca8@cdc.gov](mailto:rca8@cdc.gov)>; Rita Helfand (CDC/DDID/NCEZID/OD) ([rz7@cdc.gov](mailto:rz7@cdc.gov)) <[rz7@cdc.gov](mailto:rz7@cdc.gov)>; Sabourin, Carol (OS/ASPR/BARDA) <[Carol.Sabourin@hhs.gov](mailto:Carol.Sabourin@hhs.gov)>; Samuel, Anita (CDC/DDPHSIS/CGH/GID) <[kyp8@cdc.gov](mailto:kyp8@cdc.gov)>; Simon, David (OS/ASPR/BARDA) <[David.Simon@hhs.gov](mailto:David.Simon@hhs.gov)>; Styrt, Barbara (FDA/CDER) <[Barbara.Styrt@fda.hhs.gov](mailto:Barbara.Styrt@fda.hhs.gov)>; Suzanne Mate <[suzanne.e.mate.mil@mail.mil](mailto:suzanne.e.mate.mil@mail.mil)>; Taylor, Kimberly (NIH/NIAID) [E] <[kimberly.taylor3@nih.gov](mailto:kimberly.taylor3@nih.gov)>; Taylor, Marva (OS/ASPR/BARDA) <[Marva.Taylor@hhs.gov](mailto:Marva.Taylor@hhs.gov)>; Terri Hyde (CDC/DDPHSIS/CGH/GID) ([tkh4@cdc.gov](mailto:tkh4@cdc.gov)) <[tkh4@cdc.gov](mailto:tkh4@cdc.gov)>; Thompson, Elizabeth (FDA/CDER) <[Elizabeth.Thompson@fda.hhs.gov](mailto:Elizabeth.Thompson@fda.hhs.gov)>; Turley, Danielle (OS/ASPR/BARDA) <[Danielle.Turley@hhs.gov](mailto:Danielle.Turley@hhs.gov)>; Walke, Henry (CDC/DDID/NCEZID/DPEI) <[hfw3@cdc.gov](mailto:hfw3@cdc.gov)>; Walker, Robert (OS/ASPR/BARDA) <[Robert.Walker@hhs.gov](mailto:Robert.Walker@hhs.gov)>; Weinberger, Collin (OS/OGA) (CTR) <[Collin.Weinberger@hhs.gov](mailto:Collin.Weinberger@hhs.gov)>; Yu, Yon C. (CDC/DDID/NCEZID/DPEI) <[fkb8@cdc.gov](mailto:fkb8@cdc.gov)>

**Subject:** RE: Ebola MCM Scientific WG - Agenda (10/8)

Good morning, everyone. I've attached an updated version of the slide deck I sent last night. Couple of updates, couple of date errors corrected.

David

---

**From:** Boucher, David (OS/ASPR/BARDA)

**Sent:** Monday, October 7, 2019 9:21 PM

**To:** Amanda Zarrabian (OS/ASPR/BARDA) <[amanda.zarrabian@hhs.gov](mailto:amanda.zarrabian@hhs.gov)> <[amanda.zarrabian@hhs.gov](mailto:amanda.zarrabian@hhs.gov)>; Ayala, Ana (OS/ASPR/SPPR) <[Ana.Ayala@hhs.gov](mailto:Ana.Ayala@hhs.gov)>; Biggins, Julia E CTR (USA) <[julia.e.biggins.ctr@mail.mil](mailto:julia.e.biggins.ctr@mail.mil)>; Birnkrant, Debra B (FDA/CDER) <[Debra.Birnkrant@fda.hhs.gov](mailto:Debra.Birnkrant@fda.hhs.gov)>; Carter, Rosalind J. (CDC/DDPHSIS/CGH/GID) ([rdc6@cdc.gov](mailto:rdc6@cdc.gov)) <[rdc6@cdc.gov](mailto:rdc6@cdc.gov)>; Cho, David S (CBER) (FDA/CBER) <[David.Cho@fda.hhs.gov](mailto:David.Cho@fda.hhs.gov)>; Cossaboom, Caitlin (CDC/DDID/NCEZID/DHCPP) <[nrm9@cdc.gov](mailto:nrm9@cdc.gov)>; Daniel Wolfe (OS/ASPR/BARDA) ([Daniel.Wolfe2@hhs.gov](mailto:Daniel.Wolfe2@hhs.gov)) <[Daniel.Wolfe2@hhs.gov](mailto:Daniel.Wolfe2@hhs.gov)>; Deussing, Eric (CDC/OD/OCS) <[ncu0@cdc.gov](mailto:ncu0@cdc.gov)>; Diaz-Diaz, Carol (OS/ASPR/BARDA) <[Carol.Diaz-diaz@hhs.gov](mailto:Carol.Diaz-diaz@hhs.gov)>; Disbrow, Gary (OS/ASPR/BARDA) <[Gary.Disbrow@hhs.gov](mailto:Gary.Disbrow@hhs.gov)>; Elizabeth (NIH/NIAID) Higgs [E] ([ehiggs@niaid.nih.gov](mailto:ehiggs@niaid.nih.gov)) <[ehiggs@niaid.nih.gov](mailto:ehiggs@niaid.nih.gov)>; Fitter, David L. (CDC/DDPHSIS/CGH/GID) <[vid3@cdc.gov](mailto:vid3@cdc.gov)>; Gentles, Andrew (FDA/CDER) <[Andrew.Gentles@fda.hhs.gov](mailto:Andrew.Gentles@fda.hhs.gov)>; Hassell, David (Chris) (OS/ASPR/IO) <[David.Hassell@hhs.gov](mailto:David.Hassell@hhs.gov)>; Helen Schiltz ([helen.schiltz@nih.gov](mailto:helen.schiltz@nih.gov)) <[helen.schiltz@nih.gov](mailto:helen.schiltz@nih.gov)>; Hilary (NIH/NIAID) Marston [E] ([hilary.marston@nih.gov](mailto:hilary.marston@nih.gov)) <[hilary.marston@nih.gov](mailto:hilary.marston@nih.gov)>; Hughes, Craig



(OS/ASPR/BARDA) <Craig.Hughes@hhs.gov>; Inger K. Damon (CDC/DDID/NCEZID/DHCPP) (iad7@cdc.gov) <iad7@cdc.gov>; Inger-Marie Vilcins (ivilcins@hivresearch.org) <ivilcins@hivresearch.org>; Jenny A. Walldorf (CDC/DDPHSIS/CGH/GID) (igf4@cdc.gov) <igf4@cdc.gov>; Kahn, Emily B. (CDC/DDID/NCEZID/DPEI) <ebk9@cdc.gov>; Karin (NIH/VRC) Bok [E] (karin.bok@nih.gov) <karin.bok@nih.gov>; Kayvon Modjarrad <kmodjarrad@hivresearch.org>; Kishimori, Jennifer M COL USARMY OSD OUSD P-R (US) (jennifer.m.kishimori.mil@mail.mil) <jennifer.m.kishimori.mil@mail.mil>; Lawrence Kerr (HHS/OS/OGA) (Lawrence.Kerr@hhs.gov) <Lawrence.Kerr@hhs.gov>; Ledgerwood, Julie (NIH/NIAID) [E] <JUMARTIN@niaid.nih.gov>; Marinissen, Maria (HHS/OS/OGA) <Maria.Marinissen@hhs.gov>; Marion Gruber (FDA/CBER) (Marion.Gruber@fda.hhs.gov) <Marion.Gruber@fda.hhs.gov>; Marks, Peter (FDA/CBER) <Peter.Marks@fda.hhs.gov>; Martin I. Meltzer (CDC/DDID/NCEZID/DPEI) (qzm4@cdc.gov) <qzm4@cdc.gov>; Mary Joung Choi (CDC/DDID/NCEZID/DHCPP) (whz2@cdc.gov) <whz2@cdc.gov>; Merchlinsky, Michael (OS/ASPR/BARDA) <Michael.Merchlinsky@hhs.gov>; Michael Mair (FDA/OC) (Michael.Mair@fda.hhs.gov) <Michael.Mair@fda.hhs.gov>; Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) <ztq9@cdc.gov>; Moudy, Robin (OS/ASPR/SPPR) <Robin.Moudy@hhs.gov>; Nelson Michael <nmichael@hivresearch.org>; Paula (NIH/NIAID) Bryant [E] (paula.bryant@nih.gov) <paula.bryant@nih.gov>; Pawlicki, Nathan J CTR DHA MED COUNTERMEASURES (US) (nathan.j.pawlicki.ctr@mail.mil) <nathan.j.pawlicki.ctr@mail.mil>; Philip Krause (FDA/CBER) (Philip.Krause@fda.hhs.gov) <Philip.Krause@fda.hhs.gov>; Ray Arthur (CDC/DDPHSIS/CGH/DGHP) (rca8@cdc.gov) <rca8@cdc.gov>; Rita Helfand (CDC/DDID/NCEZID/OD) (rzh7@cdc.gov) <rzh7@cdc.gov>; Sabourin, Carol (OS/ASPR/BARDA) <Carol.Sabourin@hhs.gov>; Samuel, Anita (CDC/DDPHSIS/CGH/GID) <kyp8@cdc.gov>; Simon, David (OS/ASPR/BARDA) <David.Simon@hhs.gov>; Styrt, Barbara (FDA/CDER) <Barbara.Styrt@fda.hhs.gov>; Suzanne Mate <suzanne.e.mate.mil@mail.mil>; Taylor, Kimberly (NIH/NIAID) [E] <kimberly.taylor3@nih.gov>; Taylor, Marva (OS/ASPR/BARDA) <Marva.Taylor@hhs.gov>; Terri Hyde (CDC/DDPHSIS/CGH/GID) (tkh4@cdc.gov) <tkh4@cdc.gov>; Thompson, Elizabeth (FDA/CDER) <Elizabeth.Thompson@fda.hhs.gov>; Turley, Danielle (OS/ASPR/BARDA) <Danielle.Turley@hhs.gov>; Walke, Henry (CDC/DDID/NCEZID/DPEI) <hfw3@cdc.gov>; Walker, Robert (OS/ASPR/BARDA) <Robert.Walker@hhs.gov>; Weinberger, Collin (OS/OGA) (CTR) <Collin.Weinberger@hhs.gov>; Yu, Yon C. (CDC/DDID/NCEZID/DPEI) <fkb8@cdc.gov>

**Subject:** RE: Ebola MCM Scientific WG - Agenda (10/8)

Hello, everyone. I've attached a couple of documents for tomorrow's discussion.

For the first topic (manufacturing timelines), I've attached a brief deck summarizing the scheduled manufacturing of REGN-EB3 and mAb114 that is being supported by BARDA contracts. This was put together a couple of weeks ago obviously, but it is still an accurate summary of the current manufacturing schedule and the projected adds to the clinical supplies of REGN-EB3 and mAb114.

Second is a paper drafted by CDC that provides background and opens the discussion up for a potential recommendation that 16,000 1mL doses of the Merck vaccine be made available to Uganda, Rwanda and South Sudan. This discussion will be led by Rosalind Carter and Anita Samuel during the second half of tomorrow's meeting.

Thanks again and talk to you soon.

David

---

**From:** Boucher, David (OS/ASPR/BARDA)

**Sent:** Monday, October 7, 2019 9:23 AM

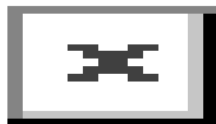
**To:** Amanda Zarrabian (OS/ASPR/BARDA) ([amanda.zarrabian@hhs.gov](mailto:amanda.zarrabian@hhs.gov)) <[amanda.zarrabian@hhs.gov](mailto:amanda.zarrabian@hhs.gov)>; Ayala, Ana (OS/ASPR/SPPR) <[Ana.Ayala@hhs.gov](mailto:Ana.Ayala@hhs.gov)>; Birnkrant, Debra B (FDA/CDER) <[Debra.Birnkrant@fda.hhs.gov](mailto:Debra.Birnkrant@fda.hhs.gov)>; Carter, Rosalind J. (CDC/DDPHSIS/CGH/GID) ([rdc6@cdc.gov](mailto:rdc6@cdc.gov)) <[rdc6@cdc.gov](mailto:rdc6@cdc.gov)>; Cho, David S (CBER) (FDA/CBER) <[David.Cho@fda.hhs.gov](mailto:David.Cho@fda.hhs.gov)>; Cossaboom, Caitlin (CDC/DDID/NCEZID/DHCPP) <[nrm9@cdc.gov](mailto:nrm9@cdc.gov)>; Daniel Wolfe (OS/ASPR/BARDA) ([Daniel.Wolfe2@hhs.gov](mailto:Daniel.Wolfe2@hhs.gov)) <[Daniel.Wolfe2@hhs.gov](mailto:Daniel.Wolfe2@hhs.gov)>; Deussing, Eric (CDC/OD/OCS) <[ncu0@cdc.gov](mailto:ncu0@cdc.gov)>; Diaz-Diaz, Carol (OS/ASPR/BARDA) <[Carol.Diaz-diaz@hhs.gov](mailto:Carol.Diaz-diaz@hhs.gov)>; Disbrow, Gary (OS/ASPR/BARDA) <[Gary.Disbrow@hhs.gov](mailto:Gary.Disbrow@hhs.gov)>; Elizabeth (NIH/NIAID) Higgs [E] ([ehiggs@niaid.nih.gov](mailto:ehiggs@niaid.nih.gov)) <[ehiggs@niaid.nih.gov](mailto:ehiggs@niaid.nih.gov)>; Fitter, David L. (CDC/DDPHSIS/CGH/GID) <[vid3@cdc.gov](mailto:vid3@cdc.gov)>; Gentles, Andrew (FDA/CDER) <[Andrew.Gentles@fda.hhs.gov](mailto:Andrew.Gentles@fda.hhs.gov)>; Hassell, David (Chris) (OS/ASPR/IO) <[David.Hassell@hhs.gov](mailto:David.Hassell@hhs.gov)>; Helen Schiltz ([helen.schiltz@nih.gov](mailto:helen.schiltz@nih.gov)) <[helen.schiltz@nih.gov](mailto:helen.schiltz@nih.gov)>; Hilary (NIH/NIAID) Marston [E] ([hilary.marston@nih.gov](mailto:hilary.marston@nih.gov)) <[hilary.marston@nih.gov](mailto:hilary.marston@nih.gov)>; Hughes, Craig (OS/ASPR/BARDA) <[Craig.Hughes@hhs.gov](mailto:Craig.Hughes@hhs.gov)>; Inger K. Damon (CDC/DDID/NCEZID/DHCPP) ([iad7@cdc.gov](mailto:iad7@cdc.gov)) <[iad7@cdc.gov](mailto:iad7@cdc.gov)>; Inger-Marie Vilcins ([ivilcins@hivresearch.org](mailto:ivilcins@hivresearch.org)) <[ivilcins@hivresearch.org](mailto:ivilcins@hivresearch.org)>; Jenny A. Walldorf (CDC/DDPHSIS/CGH/GID) ([igf4@cdc.gov](mailto:igf4@cdc.gov)) <[igf4@cdc.gov](mailto:igf4@cdc.gov)>; Kahn, Emily B. (CDC/DDID/NCEZID/DPEI) <[ebk9@cdc.gov](mailto:ebk9@cdc.gov)>; Karin (NIH/VR) Bok [E] ([karin.bok@nih.gov](mailto:karin.bok@nih.gov)) <[karin.bok@nih.gov](mailto:karin.bok@nih.gov)>; Kayvon Modjarrad <[kmodjarrad@hivresearch.org](mailto:kmodjarrad@hivresearch.org)>; Kishimori, Jennifer M COL USARMY OSD OUSD P-R (US) ([jennifer.m.kishimori.mil@mail.mil](mailto:jennifer.m.kishimori.mil@mail.mil)) <[jennifer.m.kishimori.mil@mail.mil](mailto:jennifer.m.kishimori.mil@mail.mil)>; Lawrence Kerr (HHS/OS/OGA) ([Lawrence.Kerr@hhs.gov](mailto:Lawrence.Kerr@hhs.gov)) <[Lawrence.Kerr@hhs.gov](mailto:Lawrence.Kerr@hhs.gov)>; Ledgerwood, Julie (NIH/NIAID) [E] <[JUMARTIN@niaid.nih.gov](mailto:JUMARTIN@niaid.nih.gov)>; Marinissen, Maria (HHS/OS/OGA) <[Maria.Marinissen@hhs.gov](mailto:Maria.Marinissen@hhs.gov)>; Marion Gruber (FDA/CBER) ([Marion.Gruber@fda.hhs.gov](mailto:Marion.Gruber@fda.hhs.gov)) <[Marion.Gruber@fda.hhs.gov](mailto:Marion.Gruber@fda.hhs.gov)>; Marks, Peter (FDA/CBER) <[Peter.Marks@fda.hhs.gov](mailto:Peter.Marks@fda.hhs.gov)>; Martin I. Meltzer (CDC/DDID/NCEZID/DPEI) ([qzm4@cdc.gov](mailto:qzm4@cdc.gov)) <[qzm4@cdc.gov](mailto:qzm4@cdc.gov)>; Mary Joung Choi (CDC/DDID/NCEZID/DHCPP) ([whz2@cdc.gov](mailto:whz2@cdc.gov)) <[whz2@cdc.gov](mailto:whz2@cdc.gov)>; Merchlinsky, Michael (OS/ASPR/BARDA) <[Michael.Merchlinsky@hhs.gov](mailto:Michael.Merchlinsky@hhs.gov)>; Michael Mair (FDA/OC) ([Michael.Mair@fda.hhs.gov](mailto:Michael.Mair@fda.hhs.gov)) <[Michael.Mair@fda.hhs.gov](mailto:Michael.Mair@fda.hhs.gov)>; Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) <[ztq9@cdc.gov](mailto:ztq9@cdc.gov)>; Nelson Michael <[nmichael@hivresearch.org](mailto:nmichael@hivresearch.org)>; Paula (NIH/NIAID) Bryant [E] ([paula.bryant@nih.gov](mailto:paula.bryant@nih.gov)) <[paula.bryant@nih.gov](mailto:paula.bryant@nih.gov)>; Pawlicki, Nathan J CTR DHA MED COUNTERMEASURES (US) ([nathan.j.pawlicki.ctr@mail.mil](mailto:nathan.j.pawlicki.ctr@mail.mil)) <[nathan.j.pawlicki.ctr@mail.mil](mailto:nathan.j.pawlicki.ctr@mail.mil)>; Philip Krause (FDA/CBER) ([Philip.Krause@fda.hhs.gov](mailto:Philip.Krause@fda.hhs.gov)) <[Philip.Krause@fda.hhs.gov](mailto:Philip.Krause@fda.hhs.gov)>; Ray Arthur (CDC/DDPHSIS/CGH/DGHP) ([rca8@cdc.gov](mailto:rca8@cdc.gov)) <[rca8@cdc.gov](mailto:rca8@cdc.gov)>; Rita Helfand (CDC/DDID/NCEZID/OD) ([rzh7@cdc.gov](mailto:rzh7@cdc.gov)) <[rzh7@cdc.gov](mailto:rzh7@cdc.gov)>; Sabourin, Carol (OS/ASPR/BARDA) <[Carol.Sabourin@hhs.gov](mailto:Carol.Sabourin@hhs.gov)>; Samuel, Anita (CDC/DDPHSIS/CGH/GID) <[kyp8@cdc.gov](mailto:kyp8@cdc.gov)>; Simon, David (OS/ASPR/BARDA) <[David.Simon@hhs.gov](mailto:David.Simon@hhs.gov)>; Styrt, Barbara (FDA/CDER) <[Barbara.Styrt@fda.hhs.gov](mailto:Barbara.Styrt@fda.hhs.gov)>; Suzanne Mate <[suzanne.e.mate.mil@mail.mil](mailto:suzanne.e.mate.mil@mail.mil)>; Taylor, Kimberly (NIH/NIAID) [E] <[kimberly.taylor3@nih.gov](mailto:kimberly.taylor3@nih.gov)>; Taylor, Marva (OS/ASPR/BARDA) <[Marva.Taylor@hhs.gov](mailto:Marva.Taylor@hhs.gov)>; Terri Hyde (CDC/DDPHSIS/CGH/GID) ([tkh4@cdc.gov](mailto:tkh4@cdc.gov)) <[tkh4@cdc.gov](mailto:tkh4@cdc.gov)>; Thompson, Elizabeth (FDA/CDER) <[Elizabeth.Thompson@fda.hhs.gov](mailto:Elizabeth.Thompson@fda.hhs.gov)>; Turley, Danielle (OS/ASPR/BARDA) <[Danielle.Turley@hhs.gov](mailto:Danielle.Turley@hhs.gov)>; Walke, Henry (CDC/DDID/NCEZID/DPEI) <[hfw3@cdc.gov](mailto:hfw3@cdc.gov)>; Walker, Robert (OS/ASPR/BARDA) <[Robert.Walker@hhs.gov](mailto:Robert.Walker@hhs.gov)>; Weinberger, Collin (OS/OGA) (CTR) <[Collin.Weinberger@hhs.gov](mailto:Collin.Weinberger@hhs.gov)>  
**Subject:** Ebola MCM Scientific WG - Agenda (10/8)

Good morning, everyone. I've attached the agenda for tomorrow's meeting. As you can see, we have a pretty aggressive schedule so I'll look to start promptly at 10:30am and I've double checked the access

code so we should be good on that front. I believe some slides might help the summary of the BARDA-supported manufacturing so I'll try to get a brief deck together and out to the group this evening.

On a housekeeping note, I believe I have everyone included and assigned correctly in the participant list. If there are any mistakes, please let me know. Also, if you're on this distribution list and do not plan to participate on a regular basis going forward, please let me know and I can update accordingly. Thanks!

David Boucher, PhD  
Chief, Antivirals & Antitoxins  
Division of CBRN Countermeasures  
Biomedical Advanced Research and Development Authority (BARDA)  
Office of Assistant Secretary for Preparedness and Response (ASPR)  
U.S. Department of Health & Human Services (HHS)  
200 C St SW, 24L13  
Washington DC 20024  
Office: (202) 692-4619  
Cell: (b)(6)  
[david.boucher@hhs.gov](mailto:david.boucher@hhs.gov)



<b>Sender:</b>	Kerr, Lawrence (HHS/OS/OGA) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE>
<b>Recipient:</b>	Boucher, David (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=41293945651d475fa0413062a819aac5-Boucher, Da <David.Boucher@hhs.gov>; Zarrabian, Amanda (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0c650b07917242129deb0f942bb4cc10-Zarrabian, <amanda.zarrabian@hhs.gov>; Ayala, Ana (OS/ASPR/SPPR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=80a408be55b14221a42c2b91002d6bf7-Ayala, Ana <Ana.Ayala@hhs.gov>; Biggins, Julia E CTR (USA) <julia.e.biggins.ctr@mail.mil>; Birnkrant, Debra B (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=57a9d96c3a884fc0808702ed5d3a7b4c-debra.birnkrant <Debra.Birnkrant@fda.hhs.gov>; Carter, Rosalind J. (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f16dc874b53240f7a323b1246027e71c-rosalind.ca <rdc6@cdc.gov>; Cho, David S (CBER) (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d79853f418ac488c9cd10b70d1e2b0f1-david.cho.f <David.Cho@fda.hhs.gov>; Cossaboom, Caitlin (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2063b181b77a49a4b498ee8b7afa7478-caitlin.cos <nrm9@cdc.gov>;

Wolfe, Daniel (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=01933911e406492fbd7f86e0235944d7-Wolfe, Dani <Daniel.Wolfe2@hhs.gov>;

Deussing, Eric (CDC/OD/OCS) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d0e1290339b14ad6844f56b40d0c6661-eric.deussi <ncu0@cdc.gov>;

Diaz-Diaz, Carol (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3b2b5f0685df417b9e2a0018c6fd251f-Diaz-Diaz, <Carol.Diaz-diaz@hhs.gov>;

Disbrow, Gary (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0fd5845defda4dc0bb45f8fac629cf09-Disbrow, Ga <Gary.Disbrow@hhs.gov>;

Higgs, Elizabeth (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ce3e542539154ce59df4bedbc8741ebf-elizabeth.h <ehiggs@niaid.nih.gov>;

Fitter, David L. (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=fbd8cb8b5f054c98a5d907ce4a8f2bde-david.fitte <vid3@cdc.gov>;

Gentles, Andrew (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=cd01d5eb6d814cbcb9d6547155eb7596-andrew.gent <Andrew.Gentles@fda.hhs.gov>;

Hassell, David (Chris) (OS/ASPR/IO) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=aedbf0ff96e4119ac7a3b3abaf71a3d-Hassell, Da <David.Hassell@hhs.gov>;

Schiltz, Helen (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=89f2008d8dd04f5ea7695f37929f6df7-helen.schil <hschiltz@niaid.nih.gov>;

Marston, Hilary (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=93be476c17024bbcb5b44add01fe6a8-hilary.mars <hilary.marston@nih.gov>;

Hughes, Craig (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a4ade4d09cb444bb995d03c84d1f0746-Hughes, Cra <Craig.Hughes@hhs.gov>;

Damon, Inger K. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0200deb66dbc44f5aca3f26ed15cdc6a-Damon, Inge <iad7@cdc.gov>;

Inger-Marie Vilcins (ivilcins@hivresearch.org) <ivilcins@hivresearch.org>;

Walldorf, Jenny A. (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e2813aaef1f94f96bb247826243e3811-jenny.walld <igf4@cdc.gov>;

Kahn, Emily B. (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ff8628c4e15948b3b03805d50c3d0eee-Kahn, Emily <ebk9@cdc.gov>;

Bok, Karin (NIH/VRC) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6d1dc469e6684003a0a89b132e8b7916-karin.bok.n <karin.bok@nih.gov>;

Kayvon Modjarrad <kmodjarrad@hivresearch.org>;

Kishimori, Jennifer M COL USARMY OSD OUSD P-R (US) (jennifer.m.kishimori.mil@mail.mil) <jennifer.m.kishimori.mil@mail.mil>;

Ledgerwood, Julie (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=45778324d47644eeb9fced6acbf5108f-julie.marti <JUMARTIN@niaid.nih.gov>;

Marinissen, Maria (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5d42fb4d94b041ee88e4f7dd5743e893-Marinissen, <Maria.Marinissen@hhs.gov>;

Gruber, Marion (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub <Marion.Gruber@fda.hhs.gov>;

Marks, Peter (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=df56588b970c43c8a9a2b9b31406746c-peter.marks <Peter.Marks@fda.hhs.gov>;

Meltzer, Martin I. (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7d4e5aa77412403b9ae866e4c8312e79-Meltzer, Ma <qzm4@cdc.gov>;

Choi, Mary Joung (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c9f8d54090194cf7be8e49b80bca7328-mary.choi.c

<whz2@cdc.gov>;  
 Merchlinsky, Michael (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=29a4736917274e3783b5570c29518cdf-Merchlinsky <Michael.Merchlinsky@hhs.gov>;  
 Mair, Michael (FDA/OC) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f3e2b23223bc4a1abecf698a4122f6c3-michael.mai <Michael.Mair@fda.hhs.gov>;  
 Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=62643d5586b14f1798171ce903c12ea4-Montgomery, <ztq9@cdc.gov>;  
 Moudy, Robin (OS/ASPR/SPPR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d421d3e0f6474bc3857583cfc5870d69-Moudy, Robi <Robin.Moudy@hhs.gov>;  
 Nelson Michael <nsmichael@hivresearch.org>;  
 Bryant, Paula (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b4fe56a126fc4da2a4a187dece3928e2-paula.bryan <paula.bryant@nih.gov>;  
 Pawlicki, Nathan J CTR DHA MED COUNTERMEASURES (US) (nathan.j.pawlicki.ctr@mail.mil) <nathan.j.pawlicki.ctr@mail.mil>;  
 Krause, Philip (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau <Philip.Krause@fda.hhs.gov>;  
 Arthur, Ray (CDC/DDPHSIS/CGH/DGHP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=855f8ca30adc4a59906fd6647ac8371d-Arthur, Ray <rca8@cdc.gov>;  
 Helfand, Rita (CDC/DDID/NCEZID/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=28a17ce03de24abbb3e9c9e1363c4017-Helfand, Ri <rz7@cdc.gov>;  
 Sabourin, Carol (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=46ae47e8f4b34a6e9d2804b44e192651-Sabourin, C <Carol.Sabourin@hhs.gov>;  
 Samuel, Anita (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9238fa3a950b4c118cad476c0ef01c40-anita.samue <kyp8@cdc.gov>;  
 Simon, David (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a7d46815edf04bb28ac3ea25ff3d3268-Simon, Davi <David.Simon@hhs.gov>;  
 Styrt, Barbara (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=fd3d53d2e3994f678050e141d6a0b9db-barbara.sty <Barbara.Styrt@fda.hhs.gov>;  
 Suzanne Mate <suzanne.e.mate.mil@mail.mil>;  
 Taylor, Kimberly (NIH/NIAID) [E] <kimberly.taylor3@nih.gov>;  
 Taylor, Marva (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=34ad843b32e14d9fb5e825646336d169-Taylor, Mar <Marva.Taylor@hhs.gov>;  
 Hyde, Terri (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=653839b51d4442a7b5ad95e605761104-Hyde, Terri <tkh4@cdc.gov>;  
 Thompson, Elizabeth (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ebdef60dc3794a8db0daf295649d05f0-elizabeth.t <Elizabeth.Thompson@fda.hhs.gov>;  
 Turley, Danielle (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=befe52d068424520bd5f5eddb942ff4d-Turley, Dan <Danielle.Turley@hhs.gov>;  
 Walke, Henry (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a4fecdd678cea4ee7a1436ed6ec669c27-Walke, Henr <hfw3@cdc.gov>;  
 Walker, Robert (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7a02e128c60f4a7195532a1545af9556-Walker, Rob <Robert.Walker@hhs.gov>;  
 Weinberger, Collin (OS/OGA) (CTR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=641554fc7843407585827af5898d9c26-Weinberger, <Collin.Weinberger@hhs.gov>;  
 Yu, Yon C. (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=bdd97c36ce040d8adc6dc54932741bd-Yu, Yon C. <fkb8@cdc.gov>

<b>Sent Date:</b>	2019/10/13 10:33:02
<b>Delivered Date:</b>	2019/10/13 10:33:00

<b>From:</b>	Kerr, Lawrence (HHS/OS/OGA) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE>
<b>To:</b>	<p>Boucher, David (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=41293945651d475fa0413062a819aac5-Boucher, Da &lt;David.Boucher@hhs.gov&gt;;</p> <p>Zarrabian, Amanda (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0c650b07917242129deb0f942bb4cc10-Zarrabian, &lt;amanda.zarrabian@hhs.gov&gt;;</p> <p>Ayala, Ana (OS/ASPR/SPPR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=80a408be55b14221a42c2b91002d6bf7-Ayala, Ana &lt;Ana.Ayala@hhs.gov&gt;;</p> <p>Biggins, Julia E CTR (USA) &lt;julia.e.biggins.ctr@mail.mil&gt;;</p> <p>Birnkrant, Debra B (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=57a9d96c3a884fc0808702ed5d3a7b4c-debra.birnkrant &lt;Debra.Birnkrant@fda.hhs.gov&gt;;</p> <p>Carter, Rosalind J. (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f16dc874b53240f7a323b1246027e71c-roosalind.ca &lt;rdc6@cdc.gov&gt;;</p> <p>Chandrasekera, Ruvani (OS/ASPR/SPPR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=678d9ff8e02d477ab5d0516bd3659a34-Chandraseke &lt;Ruvani.Chandrasekera@hhs.gov&gt;;</p> <p>Cho, David S (CBER) (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d79853f418ac488c9cd10b70d1e2b0f1-david.cho.f &lt;David.Cho@fda.hhs.gov&gt;;</p> <p>Cossaboom, Caitlin (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2063b181b77a49a4b498ee8b7afa7478-caitlin.cos &lt;nrm9@cdc.gov&gt;;</p> <p>Wolfe, Daniel (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=01933911e406492fbd7f86e0235944d7-Wolfe, Dani &lt;Daniel.Wolfe2@hhs.gov&gt;;</p> <p>Deussing, Eric (CDC/OD/OCS) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d0e1290339b14ad6844f56b40d0c6661-eric.deussi &lt;ncu0@cdc.gov&gt;;</p> <p>Diaz-Diaz, Carol (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3b2b5f0685df417b9e2a0018c6fd251f-Diaz-Diaz, &lt;Carol.Diaz-diaz@hhs.gov&gt;;</p> <p>Disbrow, Gary (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0fd5845defda4dc0bb45f8fac629cf09-Disbrow, Ga &lt;Gary.Disbrow@hhs.gov&gt;;</p> <p>Higgs, Elizabeth (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ce3e542539154ce59df4bedbc8741ebf-elizabeth.h &lt;ehiggs@niaid.nih.gov&gt;;</p> <p>Fitter, David L. (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=fbd8cb8b5f054c98a5d907ce4a8f2bde-david.fitte &lt;vid3@cdc.gov&gt;;</p> <p>Gentles, Andrew (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=cd01d5eb6d814cbcb9d6547155eb7596-andrew.gent &lt;Andrew.Gentles@fda.hhs.gov&gt;;</p> <p>Poley, Gerald (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1652fb2d5ebc405db14139a73d364c23-gerald.pole &lt;Gerald.Poley@fda.hhs.gov&gt;;</p> <p>Hassell, David (Chris) (OS/ASPR/IO) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=aedbfb0ff96e4119ac7a3b3abaf71a3d-Hassell, Da &lt;David.Hassell@hhs.gov&gt;;</p> <p>Schiltz, Helen (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=89f2008d8dd04f5ea7695f37929f6df7-helen.schil &lt;hschiltz@niaid.nih.gov&gt;;</p> <p>Marston, Hilary (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=93be476c17024bbcbcb5b44add01fe6a8-hilary.mars &lt;hilary.marston@nih.gov&gt;;</p> <p>Hughes, Craig (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a4ade4d09cb444bb995d03c84d1f0746-Hughes, Cra &lt;Craig.Hughes@hhs.gov&gt;;</p> <p>Damon, Inger K. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0200deb66dbc44f5aca3f26ed15cdc6a-Damon, Inge &lt;iad7@cdc.gov&gt;;</p>

Inger-Marie Vilcins (ivilcins@hivresearch.org) <ivilcins@hivresearch.org>;  
Walldorf, Jenny A. (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e2813aaef1f94f96bb247826243e3811-jenny.walldorf <igf4@cdc.gov>;  
Kahn, Emily B. (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ff8628c4e15948b3b03805d50c3d0eee-Kahn, Emily <ebk9@cdc.gov>;  
Bok, Karin (NIH/VRC) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6d1dc469e6684003a0a89b132e8b7916-karin.bok.n <karin.bok@nih.gov>;  
Kayvon Modjarrad <kmodjarrad@hivresearch.org>;  
Kishimori, Jennifer M COL USARMY OSD OUSD P-R (US) (jennifer.m.kishimori.mil@mail.mil) <jennifer.m.kishimori.mil@mail.mil>;  
Ledgerwood, Julie (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=45778324d47644eeb9fced6acbf5108f-julie.marti <JUMARTIN@niaid.nih.gov>;  
Madock, Christa M CIV USARMY MEDCOM USAMMDA (US) <christa.m.madock.civ@mail.mil>;  
Marinissen, Maria (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5d42fb4d94b041ee88e4f7dd5743e893-Marinissen, <Maria.Marinissen@hhs.gov>;  
Gruber, Marion (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub <Marion.Gruber@fda.hhs.gov>;  
Marks, Peter (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=df56588b970c43c8a9a2b9b31406746c-peter.marks <Peter.Marks@fda.hhs.gov>;  
Meltzer, Martin I. (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7d4e5aa77412403b9ae866e4c8312e79-Meltzer, Ma <qzm4@cdc.gov>;  
Choi, Mary Joung (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c9f8d54090194cf7be8e49b80bca7328-mary.choi.c <whz2@cdc.gov>;  
Merchlinsky, Michael (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=29a4736917274e3783b5570c29518cdf-Merchlinsky <Michael.Merchlinsky@hhs.gov>;  
Mair, Michael (FDA/OC) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f3e2b23223bc4a1abecf698a4122f6c3-michael.mai <Michael.Mair@fda.hhs.gov>;  
Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=62643d5586b14f1798171ce903c12ea4-Montgomery, <ztd9@cdc.gov>;  
Moudy, Robin (OS/ASPR/SPPR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d421d3e0f6474bc3857583cfc5870d69-Moudy, Robi <Robin.Moudy@hhs.gov>;  
Nelson Michael <nsmichael@hivresearch.org>;  
Bryant, Paula (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b4fe56a126fc4da2a4a187dece3928e2-paula.bryan <paula.bryant@nih.gov>;  
Pawlicki, Nathan J CTR DHA MED COUNTERMEASURES (US) (nathan.j.pawlicki.ctr@mail.mil) <nathan.j.pawlicki.ctr@mail.mil>;  
Krause, Philip (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau <Philip.Krause@fda.hhs.gov>;  
Arthur, Ray (CDC/DDPHSIS/CGH/DGHP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=855f8ca30adc4a59906fd6647ac8371d-Arthur, Ray <rca8@cdc.gov>;  
Redd, John (OS/ASPR/SPPR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9ba3fed4ee8646ec849a5a87136a24f6-Redd, John <John.Redd@hhs.gov>;  
Helfand, Rita (CDC/DDID/NCEZID/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=28a17ce03de24abbb3e9c9e1363c4017-Helfand, Ri <rzth7@cdc.gov>;  
Sabourin, Carol (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=46ae47e8f4b34a6e9d2804b44e192651-Sabourin, C <Carol.Sabourin@hhs.gov>;  
Samuel, Anita (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group



	(FYDIBOHF23SPDLT)/cn=Recipients/cn=9238fa3a950b4c118cad476c0ef01c40-anita.samue <kyp8@cdc.gov>; Simon, David (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a7d46815edf04bb28ac3ea25ff3d3268-Simon, Davi <David.Simon@hhs.gov>; Styrt, Barbara (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=fd3d53d2e3994f678050e141d6a0b9db-barbara.sty <Barbara.Styrt@fda.hhs.gov>; Suzanne Mate <suzanne.e.mate.mil@mail.mil>; Taylor, Kimberly (NIH/NIAID) [E] <kimberly.taylor3@nih.gov>; Taylor, Marva (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=34ad843b32e14d9fb5e825646336d169-Taylor, Mar <Marva.Taylor@hhs.gov>; Hyde, Terri (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=653839b51d4442a7b5ad95e605761104-Hyde, Terri <tkh4@cdc.gov>; Thompson, Elizabeth (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ebdef60dc3794a8db0daf295649d05f0-elizabeth.t <Elizabeth.Thompson@fda.hhs.gov>; Turley, Danielle (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=befe52d068424520bd5f5eddb942ff4d-Turley, Dan <Danielle.Turley@hhs.gov>; Walke, Henry (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a4fec678cea4ee7a1436ed6ec669c27-Walke, Henr <hfw3@cdc.gov>; Walker, Robert (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7a02e128c60f4a7195532a1545af9556-Walker, Rob <Robert.Walker@hhs.gov>; Weinberger, Collin (OS/OGA) (CTR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=641554fc7843407585827af5898d9c26-Weinberger, <Collin.Weinberger@hhs.gov>; Yu, Yon C. (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=bbdd97c36ce040d8adc6dc54932741bd-Yu, Yon C. <fkb8@cdc.gov>
<b>Subject:</b>	RE: Ebola MCM WG Draft Meeting Summary
<b>Date:</b>	2019/11/12 17:26:00
<b>Priority:</b>	Normal
<b>Type:</b>	Note

Thought the group might find this interesting –

### WHO prequalifies Ebola vaccine, paving the way for its use in high-risk countries

**12 November 2019** - The World Health Organization (WHO) today prequalified an Ebola vaccine for the first time, a critical step that will help speed up its licensing, access and roll-out in countries most at risk of Ebola outbreaks. This is the fastest vaccine prequalification process ever conducted by WHO.

Prequalification means that the vaccine meets WHO standards for quality, safety and efficacy. United Nations agencies and Gavi, the Vaccine Alliance, can procure the vaccine for at-risk countries based on this WHO recommendation.

"This is a historic step towards ensuring the people who most need it are able to access this life-saving vaccine," said Dr Tedros Adhanom Ghebreyesus, WHO Director-General. "Five years ago, we had no vaccine and no therapeutics for Ebola. With a prequalified vaccine and experimental therapeutics, Ebola is now preventable and treatable."

The injectable Ebola vaccine, Ervebo, is manufactured by Merck (known as MSD outside the US and Canada). It has been shown to be effective in protecting people from the Ebola Zaire virus and is recommended by the WHO Strategic Advisory Group of Experts (SAGE) for vaccines as part of a broader set of Ebola response tools. The decision is a step towards greater availability of the vaccine in the future, though licensed doses will only be available mid-2020.

This announcement comes less than 48 hours after the European Commission decision to grant a conditional marketing authorization for the vaccine, following the recommendation from the European Medicines Agency (EMA).

Due to the urgent public health need for a prequalified Ebola vaccine, WHO accelerated prequalification by reviewing safety and efficacy data as the information became available. Representatives from the prequalification team participated in the EMA evaluation process to address programmatic suitability for at-risk countries in Africa.

"The development, study, and rapid prequalification of this vaccine show what the global community can do when we prioritize the health needs of vulnerable people," said Dr Tedros.

WHO is also facilitating licensing of the vaccine for use in countries at risk of Ebola outbreaks, based on the reviews and positive outcome by the EMA. WHO, with the support of EMA, has worked closely with many African regulators who have indicated they will quickly license the vaccine following the WHO recommendation.

### More information

WHO roadmap for introduction and roll out of a licensed Ebola vaccine:

[https://www.who.int/medicines/news/2019/roadmap\\_for\\_intro\\_roll\\_out\\_licensed\\_ebolavirus\\_vaccine/en/](https://www.who.int/medicines/news/2019/roadmap_for_intro_roll_out_licensed_ebolavirus_vaccine/en/)

Press release, 18 October: Major milestone for WHO-supported Ebola vaccine

<https://www.who.int/news-room/detail/18-10-2019-major-milestone-for-who-supported-ebola-vaccine>

### Media contact

Tarik Jašarević

Mobile: (b)(6)

Tel: +41 22 791 5099

E-mail: [jasarevict@who.int](mailto:jasarevict@who.int)

---

**From:** Boucher, David (OS/ASPR/BARDA) <David.Boucher@hhs.gov>

**Sent:** Tuesday, November 5, 2019 10:25 PM

**To:** Zarrabian, Amanda (OS/ASPR/BARDA) <amanda.zarrabian@hhs.gov>; Ayala, Ana (OS/ASPR/SPPR) <Ana.Ayala@hhs.gov>; Biggins, Julia E CTR (USA) <julia.e.biggins.ctr@mail.mil>; Birnkrant, Debra B (FDA/CDER) <Debra.Birnkrant@fda.hhs.gov>; Carter, Rosalind J. (CDC/DDPHSIS/CGH/GID) <rdoc6@cdc.gov>; Chandrasekera, Ruvani (OS/ASPR/SPPR) <Ruvani.Chandrasekera@hhs.gov>; Cho, David S (CBER) (FDA/CBER) <David.Cho@fda.hhs.gov>; Cossaboom, Caitlin (CDC/DDID/NCEZID/DHCPP) <nrm9@cdc.gov>; Wolfe, Daniel (OS/ASPR/BARDA) <Daniel.Wolfe2@hhs.gov>; Deussing, Eric

(CDC/OD/OCS) <ncu0@cdc.gov>; Diaz-Diaz, Carol (OS/ASPR/BARDA) <Carol.Diaz-diaz@hhs.gov>; Disbrow, Gary (OS/ASPR/BARDA) <Gary.Disbrow@hhs.gov>; Higgs, Elizabeth (NIH/NIAID) [E] <ehiggs@niaid.nih.gov>; Fitter, David L. (CDC/DDPHSIS/CGH/GID) <vid3@cdc.gov>; Gentles, Andrew (FDA/CDER) <Andrew.Gentles@fda.hhs.gov>; Poley, Gerald (FDA/CDER) <Gerald.Poley@fda.hhs.gov>; Hassell, David (Chris) (OS/ASPR/IO) <David.Hassell@hhs.gov>; Schiltz, Helen (NIH/NIAID) [E] <hschiltz@niaid.nih.gov>; Marston, Hilary (NIH/NIAID) [E] <hilary.marston@nih.gov>; Hughes, Craig (OS/ASPR/BARDA) <Craig.Hughes@hhs.gov>; Damon, Inger K. (CDC/DDID/NCEZID/DHCPP) <iad7@cdc.gov>; Inger-Marie Vilcins (ivilcins@hivresearch.org) <ivilcins@hivresearch.org>; Walldorf, Jenny A. (CDC/DDPHSIS/CGH/GID) <igf4@cdc.gov>; Kahn, Emily B. (CDC/DDID/NCEZID/DPEI) <ebk9@cdc.gov>; Bok, Karin (NIH/VRC) [E] <karin.bok@nih.gov>; Kayvon Modjarrad <kmodjarrad@hivresearch.org>; Kishimori, Jennifer M COL USARMY OSD OUSD P-R (US) (jennifer.m.kishimori.mil@mail.mil) <jennifer.m.kishimori.mil@mail.mil>; Kerr, Lawrence (HHS/OS/OGA) <Lawrence.Kerr@hhs.gov>; Ledgerwood, Julie (NIH/NIAID) [E] <jumartin@niaid.nih.gov>; Madock, Christa M CIV USARMY MEDCOM USAMMDA (US) <christa.m.madock.civ@mail.mil>; Marinissen, Maria (HHS/OS/OGA) <Maria.Marinissen@hhs.gov>; Gruber, Marion (FDA/CBER) <Marion.Gruber@fda.hhs.gov>; Marks, Peter (FDA/CBER) <Peter.Marks@fda.hhs.gov>; Meltzer, Martin I. (CDC/DDID/NCEZID/DPEI) <qzm4@cdc.gov>; Choi, Mary Joung (CDC/DDID/NCEZID/DHCPP) <whz2@cdc.gov>; Merchlinsky, Michael (OS/ASPR/BARDA) <Michael.Merchlinsky@hhs.gov>; Mair, Michael (FDA/OC) <Michael.Mair@fda.hhs.gov>; Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) <zqt9@cdc.gov>; Moudy, Robin (OS/ASPR/SPPR) <Robin.Moudy@hhs.gov>; Nelson Michael <nsmichael@hivresearch.org>; Bryant, Paula (NIH/NIAID) [E] <paula.bryant@nih.gov>; Pawlicki, Nathan J CTR DHA MED COUNTERMEASURES (US) (nathan.j.pawlicki.ctr@mail.mil) <nathan.j.pawlicki.ctr@mail.mil>; Krause, Philip (FDA/CBER) <Philip.Krause@fda.hhs.gov>; Arthur, Ray (CDC/DDPHSIS/CGH/DGHP) <rca8@cdc.gov>; Redd, John (OS/ASPR/SPPR) <John.Redd@hhs.gov>; Helfand, Rita (CDC/DDID/NCEZID/OD) <rz7@cdc.gov>; Sabourin, Carol (OS/ASPR/BARDA) <Carol.Sabourin@hhs.gov>; Samuel, Anita (CDC/DDPHSIS/CGH/GID) <kyp8@cdc.gov>; Simon, David (OS/ASPR/BARDA) <David.Simon@hhs.gov>; Styrt, Barbara (FDA/CDER) <Barbara.Styrt@fda.hhs.gov>; Suzanne Mate <suzanne.e.mate.mil@mail.mil>; Taylor, Kimberly (NIH/NIAID) [E] <kimberly.taylor3@nih.gov>; Taylor, Marva (OS/ASPR/BARDA) <Marva.Taylor@hhs.gov>; Hyde, Terri (CDC/DDPHSIS/CGH/GID) <tkh4@cdc.gov>; Thompson, Elizabeth (FDA/CDER) <Elizabeth.Thompson@fda.hhs.gov>; Turley, Danielle (OS/ASPR/BARDA) <Danielle.Turley@hhs.gov>; Walke, Henry (CDC/DDID/NCEZID/DPEI) <hfw3@cdc.gov>; Walker, Robert (OS/ASPR/BARDA) <Robert.Walker@hhs.gov>; Weinberger, Collin (OS/OGA) (CTR) <Collin.Weinberger@hhs.gov>; Yu, Yon C. (CDC/DDID/NCEZID/DPEI) <fkb8@cdc.gov>

**Subject:** Ebola MCM WG Draft Meeting Summary

Hello, everyone. I've attached a draft summary of today's meeting. Please send me any comments, questions or suggested edits by COB Wednesday. Thanks again!

David Boucher, PhD  
Chief, Antivirals & Antitoxins  
Division of CBRN Countermeasures  
Biomedical Advanced Research and Development Authority (BARDA)  
Office of Assistant Secretary for Preparedness and Response (ASPR)  
U.S. Department of Health & Human Services (HHS)  
200 C St SW, 24L13  
Washington DC 20024  
Office: (202) 692-4619

Cell: (b)(6)  
david.boucher@hhs.gov

<b>Sender:</b>	Kerr, Lawrence (HHS/OS/OGA) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE>
<b>Recipient:</b>	Boucher, David (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=41293945651d475fa0413062a819aac5-Boucher, Da <David.Boucher@hhs.gov>; Zarrabian, Amanda (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0c650b07917242129deb0f942bb4cc10-Zarrabian, <amanda.zarrabian@hhs.gov>; Ayala, Ana (OS/ASPR/SPPR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=80a408be55b14221a42c2b91002d6bf7-Ayala, Ana <Ana.Ayala@hhs.gov>; Biggins, Julia E CTR (USA) <julia.e.biggins.ctr@mail.mil>; Birnkran, Debra B (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=57a9d96c3a884fc0808702ed5d3a7b4c-debra.birnk <Debra.Birnkran@fda.hhs.gov>; Carter, Rosalind J. (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f16dc874b53240f7a323b1246027e71c-rosalind.ca <rdc6@cdc.gov>; Chandrasekera, Ruvani (OS/ASPR/SPPR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=678d9ff8e02d477ab5d0516bd3659a34-Chandraseke <Ruvani.Chandrasekera@hhs.gov>; Cho, David S (CBER) (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d79853f418ac488c9cd10b70d1e2b0f1-david.cho.f <David.Cho@fda.hhs.gov>; Cossaboom, Caitlin (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2063b181b77a49a4b498ee8b7afa7478-caitlin.cos <nrm9@cdc.gov>; Wolfe, Daniel (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=01933911e406492fbd7f86e0235944d7-Wolfe, Dani <Daniel.Wolfe2@hhs.gov>; Deussing, Eric (CDC/OD/OCS) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d0e1290339b14ad6844f56b40d0c6661-eric.deussi <ncu0@cdc.gov>; Diaz-Diaz, Carol (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3b2b5f0685df417b9e2a0018c6fd251f-Diaz-Diaz, <Carol.Diaz-diaz@hhs.gov>; Disbrow, Gary (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0fd5845defda4dc0bb45f8fac629cf09-Disbrow, Ga <Gary.Disbrow@hhs.gov>; Higgs, Elizabeth (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ce3e542539154ce59df4bedbc8741ebf-elizabeth.h <ehiggs@niaid.nih.gov>; Fitter, David L. (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=fbd8cb8b5f054c98a5d907ce4a8f2bde-david.fitte <vid3@cdc.gov>; Gentles, Andrew (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=cd01d5eb6d814cbcb9d6547155eb7596-andrew.gent <Andrew.Gentles@fda.hhs.gov>; Poley, Gerald (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1652fb2d5ebc405db14139a73d364c23-gerald.pole <Gerald.Poley@fda.hhs.gov>; Hassell, David (Chris) (OS/ASPR/IO) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=aedbf0ff96e4119ac7a3b3abaf71a3d-Hassell, Da <David.Hassell@hhs.gov>; Schiltz, Helen (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=89f2008d8dd04f5ea7695f37929f6df7-helen.schil <hschiltz@niaid.nih.gov>; Marston, Hilary (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=93be476c17024bbcb5b44add01fe6a8-hilary.mars

<hilary.marston@nih.gov>;  
 Hughes, Craig (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=a4ade4d09cb444bb995d03c84d1f0746-Hughes, Cra  
 <Craig.Hughes@hhs.gov>;  
 Damon, Inger K. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=0200deb66dbc44f5aca3f26ed15cdc6a-Damon, Inge  
 <iad7@cdc.gov>;  
 Inger-Marie Vilcins (ivilcins@hivresearch.org) <ivilcins@hivresearch.org>;  
 Walldorf, Jenny A. (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=e2813aaef1f94f96bb247826243e3811-jenny.walld  
 <igf4@cdc.gov>;  
 Kahn, Emily B. (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=ff8628c4e15948b3b03805d50c3d0eee-Kahn, Emily  
 <ebk9@cdc.gov>;  
 Bok, Karin (NIH/VRC) [E] /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=6d1dc469e6684003a0a89b132e8b7916-karin.bok.n  
 <karin.bok@nih.gov>;  
 Kayvon Modjarrad <kmodjarrad@hivresearch.org>;  
 Kishimori, Jennifer M COL USARMY OSD OUSD P-R (US) (jennifer.m.kishimori.mil@mail.mil)  
 <jennifer.m.kishimori.mil@mail.mil>;  
 Ledgerwood, Julie (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=45778324d47644eeb9fced6acbf5108f-julie.marti  
 <JUMARTIN@niaid.nih.gov>;  
 Madock, Christa M CIV USARMY MEDCOM USAMMDA (US) <christa.m.madock.civ@mail.mil>;  
 Marinissen, Maria (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=5d42fb4d94b041ee88e4f7dd5743e893-Marinissen,  
 <Maria.Marinissen@hhs.gov>;  
 Gruber, Marion (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=45a0d24180354f55a133fec3ade6c972-marion.grub  
 <Marion.Gruber@fda.hhs.gov>;  
 Marks, Peter (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=df56588b970c43c8a9a2b9b31406746c-peter.marks  
 <Peter.Marks@fda.hhs.gov>;  
 Meltzer, Martin I. (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=7d4e5aa77412403b9ae866e4c8312e79-Meltzer, Ma  
 <qzm4@cdc.gov>;  
 Choi, Mary Joung (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=c9f8d54090194cf7be8e49b80bca7328-mary.choi.c  
 <whz2@cdc.gov>;  
 Merchlinsky, Michael (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=29a4736917274e3783b5570c29518cdf-Merchlinsky  
 <Michael.Merchlinsky@hhs.gov>;  
 Mair, Michael (FDA/OC) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=f3e2b23223bc4a1abecf698a4122f6c3-michael.mai  
 <Michael.Mair@fda.hhs.gov>;  
 Montgomery, Joel M. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative  
 Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=62643d5586b14f1798171ce903c12ea4-Montgomery,  
 <ztq9@cdc.gov>;  
 Moudy, Robin (OS/ASPR/SPPR) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=d421d3e0f6474bc3857583cfc5870d69-Moudy, Robi  
 <Robin.Moudy@hhs.gov>;  
 Nelson Michael <nmichael@hivresearch.org>;  
 Bryant, Paula (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=b4fe56a126fc4da2a4a187dece3928e2-paula.bryan  
 <paula.bryant@nih.gov>;  
 Pawlicki, Nathan J CTR DHA MED COUNTERMEASURES (US) (nathan.j.pawlicki.ctr@mail.mil)  
 <nathan.j.pawlicki.ctr@mail.mil>;  
 Krause, Philip (FDA/CBER) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=db30c21c61424ee0b278cee85f9a71f1-philip.krau  
 <Philip.Krause@fda.hhs.gov>;  
 Arthur, Ray (CDC/DDPHSIS/CGH/DGHP) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=855f8ca30adc4a59906fd6647ac8371d-Arthur, Ray  
 <rca8@cdc.gov>;  
 Redd, John (OS/ASPR/SPPR) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=9ba3fed4ee8646ec849a5a87136a24f6-Redd, John  
 <John.Redd@hhs.gov>;

	<p>Helfand, Rita (CDC/DDID/NCEZID/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=28a17ce03de24abbb3e9c9e1363c4017-Helfand, Ri &lt;rz7h@cdc.gov&gt;;</p> <p>Sabourin, Carol (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=46ae47e8f4b34a6e9d2804b44e192651-Sabourin, C &lt;Carol.Sabourin@hhs.gov&gt;;</p> <p>Samuel, Anita (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9238fa3a950b4c118cad476c0ef01c40-anita.samue &lt;kyp8@cdc.gov&gt;;</p> <p>Simon, David (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a7d46815edf04bb28ac3ea25ff3d3268-Simon, Davi &lt;David.Simon@hhs.gov&gt;;</p> <p>Styrt, Barbara (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=fd3d53d2e3994f678050e141d6a0b9db-barbara.sty &lt;Barbara.Styrt@fda.hhs.gov&gt;;</p> <p>Suzanne Mate &lt;suzanne.e.mate.mil@mail.mil&gt;;</p> <p>Taylor, Kimberly (NIH/NIAID) [E] &lt;kimberly.taylor3@nih.gov&gt;;</p> <p>Taylor, Marva (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=34ad843b32e14d9fb5e825646336d169-Taylor, Mar &lt;Marva.Taylor@hhs.gov&gt;;</p> <p>Hyde, Terri (CDC/DDPHSIS/CGH/GID) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=653839b51d4442a7b5ad95e605761104-Hyde, Terri &lt;tkh4@cdc.gov&gt;;</p> <p>Thompson, Elizabeth (FDA/CDER) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ebdef60dc3794a8db0daf295649d05f0-elizabeth.t &lt;Elizabeth.Thompson@fda.hhs.gov&gt;;</p> <p>Turley, Danielle (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=befe52d068424520bd5f5eddb942ff4d-Turley, Dan &lt;Danielle.Turley@hhs.gov&gt;;</p> <p>Walke, Henry (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a4fecdd678cea4ee7a1436ed6ec669c27-Walke, Henr &lt;hfw3@cdc.gov&gt;;</p> <p>Walker, Robert (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7a02e128c60f4a7195532a1545af9556-Walker, Rob &lt;Robert.Walker@hhs.gov&gt;;</p> <p>Weinberger, Collin (OS/OGA) (CTR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=641554fc7843407585827af5898d9c26-Weinberger, &lt;Collin.Weinberger@hhs.gov&gt;;</p> <p>Yu, Yon C. (CDC/DDID/NCEZID/DPEI) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=bdd97c36ce040d8adc6dc54932741bd-Yu, Yon C. &lt;fkb8@cdc.gov&gt;</p>
<b>Sent Date:</b>	2019/11/12 17:26:41
<b>Delivered Date:</b>	2019/11/12 17:26:00

<b>From:</b>	Kerr, Lawrence (HHS/OS/OGA) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE>
<b>To:</b>	Damon, Inger K. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0200deb66dbc44f5aca3f26ed15cdc6a-Damon, Inge <iad7@cdc.gov>; Victoria Olson (CDC/DDID/NCEZID/DHCPP) (vao9@cdc.gov) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=747047aa7a3d4f7baffc49ec8ab3ac6b-Olson, Vict <vao9@cdc.gov>; Christina Hutson (CDC/DDID/NCEZID/DHCPP) (zuu6@cdc.gov) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d93f81ddc3a249a79b931f968074f403-Hutson, Chr <zuu6@cdc.gov>
<b>Subject:</b>	WHO commemorates the 40th anniversary of smallpox eradication
<b>Date:</b>	2019/12/13 09:22:00
<b>Priority:</b>	Normal
<b>Type:</b>	Note

FYI

<https://www.who.int/news-room/detail/13-12-2019-who-commemorates-the-40th-anniversary-of-smallpox-eradication>

### **Historic milestone underscores urgent need to invest in global health security and universal health coverage**

**13 December 2019 | News release | Geneva, Switzerland**---The World Health Organization commemorated the 40th anniversary of smallpox eradication today recognizing the historic moment on 9 December 1979 when the end of smallpox was confirmed to have been eradicated. Five months later, in May 1980, the 33rd World Health Assembly issued its official declaration that ‘the world and all its peoples have won freedom from smallpox’.

A bronze plaque marking the end of a scourge that had afflicted millions for thousands of years was unveiled at WHO headquarters in Geneva in the very same meeting room where, four decades earlier, the 19 members of the Global Commission for the Certification of Smallpox Eradication certified that smallpox had been eradicated from the world.

Speaking at the event attended by country representatives, UN representatives and WHO staff who worked on smallpox, WHO Director-General Tedros Adhanom Ghebreyesus said, “Today, smallpox is the only human disease ever eradicated, a testimony to what we can achieve when all nations work together.

When it comes to epidemic disease, we have a shared responsibility and a shared destiny. With this plaque, we commemorate the heroes around the world who came together to fight smallpox and worked to keep future generations safe. “

Until it was wiped out, smallpox had plagued humanity for at least 3000 years, killing 300 million people in the 20th century alone. The last known endemic case of smallpox was reported and the outbreak promptly contained in Somalia in 1977.

The successful smallpox eradication programme yielded vital knowledge and tools for the field of disease surveillance, the benefits of ring vaccination and the importance of health promotion in fighting

diseases such as poliomyelitis and the Ebola virus. It also laid the foundation for stronger national immunization programmes worldwide, underpinning the establishment of primary health care in many countries and creating momentum toward Universal Health Coverage.

Today's commemoration kicks off a year-long campaign in which WHO and partners will mark the eradication of smallpox and raise awareness about the need to continue the fight against polio and other diseases and accelerate investments in global health security. A smallpox eradication exhibition will be unveiled at the World Health Assembly in May 2020 and is expected to travel to other events, including the United Nations General Assembly in New York.

**More information:**

The Smallpox Eradication Programme - SEP (1966-1980)

<https://www.who.int/features/2010/smallpox/en/>

Archives of the Smallpox Eradication Programme

[https://www.who.int/archives/fonds\\_collections/bytitle/fonds\\_6/en/](https://www.who.int/archives/fonds_collections/bytitle/fonds_6/en/)

**More about smallpox**

<https://www.who.int/csr/disease/smallpox/en/>

**Media contacts:**

Fadéla Chaib, WHO Spokesperson, + 41 22 791 3228; +41794755556; Email: [chaibf@who.int](mailto:chaibf@who.int)

<b>Sender:</b>	Kerr, Lawrence (HHS/OS/OGA) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE>
<b>Recipient:</b>	Damon, Inger K. (CDC/DDID/NCEZID/DHCPP) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0200deb66dbc44f5aca3f26ed15cdc6a-Damon, Inge <iad7@cdc.gov>; Victoria Olson (CDC/DDID/NCEZID/DHCPP) (vao9@cdc.gov) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=747047aa7a3d4f7baffc49ec8ab3ac6b-Olson, Vict <vao9@cdc.gov>; Christina Hutson (CDC/DDID/NCEZID/DHCPP) (zuu6@cdc.gov) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d93f81ddc3a249a79b931f968074f403-Hutson, Chr <zuu6@cdc.gov>
<b>Sent Date:</b>	2019/12/13 09:22:47
<b>Delivered Date:</b>	2019/12/13 09:22:00



<b>From:</b>	Kerr, Lawrence (HHS/OS/OGA) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE>
<b>To:</b>	'swaminathans@who.int' <swaminathans@who.int>; 'aylwardb@who.int' <aylwardb@who.int>
<b>Subject:</b>	Canceled: USG-WHO MCM Cooperation Call
<b>Date:</b>	2020/06/12 07:07:00
<b>Start Date:</b>	2020/06/12 08:00:00
<b>End Date:</b>	2020/06/12 08:30:00
<b>Importance:</b>	High
<b>Priority:</b>	Urgent
<b>Type:</b>	Schedule.Meeting.Canceled
<b>Location:</b>	Conference line below
<b>Attendees:</b>	'swaminathans@who.int'; 'aylwardb@who.int'

USG-WHO MCM Cooperation Call: Dr. Larry Kerr, Dr. Soumya Swaminathan and Dr. Bruce Aylward.

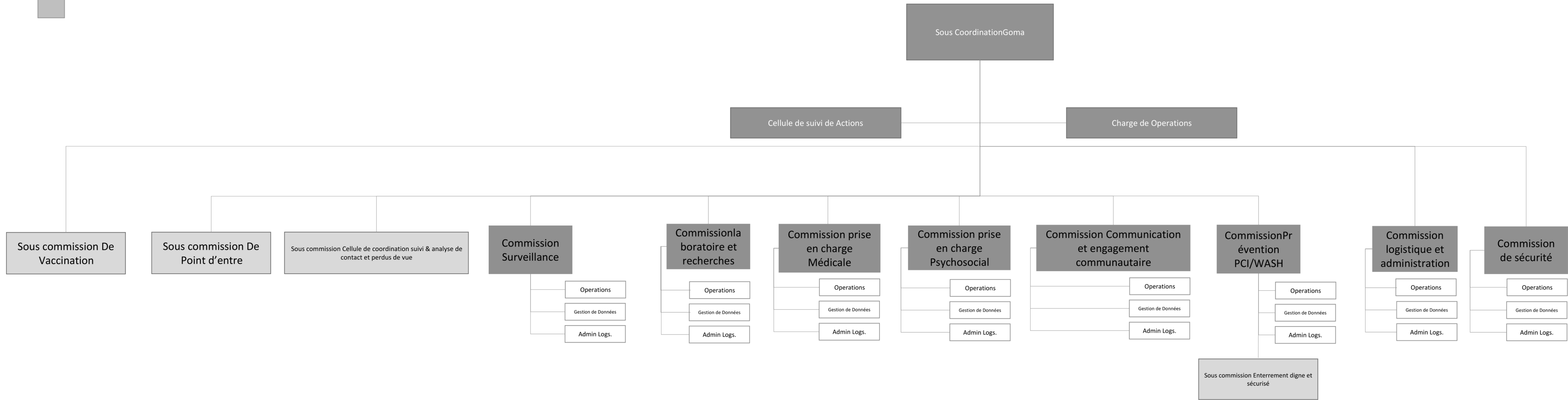
Domestic: (b)(6)  
International: (b)(6)  
Participant Passcode: (b)(6)

<b>Sender:</b>	Kerr, Lawrence (HHS/OS/OGA) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8CE9DE2E7497472BB758F8FD6E262C86-KERR, LAWRE>
<b>Recipient:</b>	'swaminathans@who.int' <swaminathans@who.int>; 'aylwardb@who.int' <aylwardb@who.int>
<b>Sent Date:</b>	2020/06/12 07:07:58
<b>Delivered Date:</b>	2020/06/12 07:07:00

Legend:Goma Sub-CoordinationCommissionCommission Support staffSub commission



Current MOH General Coordination (EOC) Goma organogram Reality on the field



# Proposed MOH General Coordination (EOC) Goma organogram

Legend:Goma Sub-  
CoordinationCommissionCor  
n Support staffSub commissionNew  
positions



IM Advisory  
GroupWHO/CDC/MSF/OCH  
A/MONUSCO/EERC

Gestionnaire de  
l'incident

Assistant du gestionnaire de l'incident

Gestion de Données

Sous Gestionnaire de l'incident

Coordination des partenaires

CDC

Gestion d'urgence et EOC

CDC

Réponse Technique

Préparation technique et  
prévention

Charge de Operations

Commission Surveillance

CDC

Operations  
Admin/Logs.  
Gestion de Données

Commissionlaboratoire  
et recherches

CDC

Operations  
Admin/Logs.  
Gestion de Données

Commission Prévention  
PCI/WASH

CDC

Operations  
Admin/Logs.  
Gestion de Données

Commission Communication et  
engagement communautaire

CDC

Operations  
Admin/Logs.  
Gestion de Données

Commission logistique  
et administration

Operations  
Admin/Logs.  
Gestion de Données

Securite

Operations  
Admin/Logs.  
Gestion de Données

Sous commission Cellule de  
coordination suivi & analyse de  
contact et perdus de vue

CDC

Sous commission De  
Vaccination

CDC

Sous commission De Point  
d'entre

CDC

Commission prise en  
charge Psychosocial

Operations  
Admin/Logs.  
Data management

Sous commission Enterrement  
digne et sécurisé

Commission prise en  
charge Médicale

Operations  
Admin/Logs.  
Data management

(Version 6.0 9/21/19)

<b>From:</b>	Grigsby, Garrett (HHS/OS/OGA) /O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=7CD78B4810D44B17B8711AAEDE9A9023-GRIGSBY, GL <Garrett.Grigsby@hhs.gov>
<b>To:</b>	Brennan, Patrick (OS/ASPA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b51c3d9a49fd4882951eca2417c19dcf-Brennan, Pa <Patrick.Brennan@hhs.gov>; Chang, William (HHS/OGC) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3cf70c842da144ab9bee61f353d932a0-Chang, Will <William.Chang@hhs.gov>; Fauci, Anthony (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=826965b24a314ffca7eddc6e8229aa7-anthony.fau <aafauci@niaid.nih.gov>; Redfield, Robert R. (CDC/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9ab74a26317547b8a754285d9eaa847c-robert.redf <olx1@cdc.gov>
<b>CC:</b>	Zebley, Kyle (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b81a0e4749994f969ff1063b9a3a0b1f-Zebley, Kyl <Kyle.Zebley@hhs.gov>; Hall, Bill (HHS/ASPA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=02b39f27f3b4469a960054b23545cc24-Hall, Bill <bill.hall@hhs.gov>; Kerr, Lawrence (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8ce9de2e7497472bb758f8fd6e262c86-Kerr, Lawre <Lawrence.Kerr@hhs.gov>; Elvander, Erika (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ac87c0ec2d2741a69764e52f6cb4ca95-Elvander, E <Erika.Elvander@hhs.gov>; McGowan, Robert (Kyle) (CDC/OD/OCS) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a2046e75239f48a28d2854bedbe5f899-robert.mcgo <omc2@cdc.gov>; Conrad, Patricia (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3793ae43a1744d8f8aa56b600c0c975b-patricia.co <conradpa@niaid.nih.gov>; Keveney, Sean (HHS/OGC) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2e13823250af4ccf93b3de562380e78e-Keveney, Se <Sean.Keveney@hhs.gov>; Stimson, Brian (HHS/OGC) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=338aa495176d4c92bb314f8f3f51d118-Stimson, Br <Brian.Stimson@hhs.gov>
<b>Subject:</b>	RE: For review by 5 PM if possible: draft Sec. Azar and Sec. Pompeo op-ed
<b>Date:</b>	2020/02/04 14:55:34
<b>Importance:</b>	High
<b>Priority:</b>	Urgent
<b>Type:</b>	Note

## Couple of corrections and edits

**From:** Brennan, Patrick (OS/ASPA) <Patrick.Brennan@hhs.gov>

**Sent:** Tuesday, February 4, 2020 2:25 PM

**To:** Chang, William (HHS/OGC) <William.Chang@hhs.gov>; Fauci, Anthony (NIH/NIAID) [E] <aafauci@niaid.nih.gov>; Redfield, Robert R. (CDC/OD) <olx1@cdc.gov>

**Cc:** Zebley, Kyle (HHS/OS/OGA) <Kyle.Zebley@hhs.gov>; Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov>; Hall, Bill (HHS/ASPA) <bill.hall@hhs.gov>; Kerr, Lawrence (HHS/OS/OGA) <Lawrence.Kerr@hhs.gov>; Elvander, Erika (OS/OGA) <Erika.Elvander@hhs.gov>; McGowan, Robert

(Kyle) (CDC/OD/OCS) <omc2@cdc.gov>; Conrad, Patricia (NIH/NIAID) [E] <conradpa@niaid.nih.gov>; Keveney, Sean (HHS/OGC) <Sean.Keveney@hhs.gov>; Stimson, Brian (HHS/OGC) <Brian.Stimson@hhs.gov>

**Subject:** For review by 5 PM if possible: draft Sec. Azar and Sec. Pompeo op-ed

Dr. Redfield and Dr. Fauci, and OGC,

(b)(5)

**If possible, please let me know if you can clear this by 5 PM, so we can send it over to State.**

Thank you!

- Patrick

(b)(5)

(b)(5)

(b)(5)

<< File: 2 4 20 pompeo azar op-ed.docx >>

**Patrick Brennan**

Director of Speechwriting

Department of Health and Human Services

Office: 202-205-2819 | Cell: (b)(6)

<b>Sender:</b>	Grigsby, Garrett (HHS/OS/OGA) /O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=7CD78B4810D44B17B8711AAEDE9A9023-GRIGSBY, GL <Garrett.Grigsby@hhs.gov>
<b>Recipient:</b>	Brennan, Patrick (OS/ASPA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b51c3d9a49fd4882951eca2417c19dcf-Brennan, Pa <Patrick.Brennan@hhs.gov>; Chang, William (HHS/OGC) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3cf70c842da144ab9bee61f353d932a0-Chang, Will <William.Chang@hhs.gov>; Fauci, Anthony (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=826965b24a314ffca7eddc6e8229aa7-anthony.fau <afauci@niaid.nih.gov>; Redfield, Robert R. (CDC/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9ab74a26317547b8a754285d9eaa847c-robert.redf <olx1@cdc.gov>; Zebley, Kyle (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b81a0e4749994f969ff1063b9a3a0b1f-Zebley, Kyl <Kyle.Zebley@hhs.gov>; Hall, Bill (HHS/ASPA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=02b39f27f3b4469a960054b23545cc24-Hall, Bill <bill.hall@hhs.gov>; Kerr, Lawrence (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8ce9de2e7497472bb758f8fd6e262ca86-Kerr, Lawre <Lawrence.Kerr@hhs.gov>; Elvander, Erika (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ac87c0ec2d2741a69764e52f6cb4ca95-Elvander, E <Erika.Elvander@hhs.gov>; McGowan, Robert (Kyle) (CDC/OD/OCS) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a2046e75239f48a28d2854bedbe5f899-robert.mcgo <omc2@cdc.gov>; Conrad, Patricia (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3793ae43a1744d8f8aa56b600c0c975b-patricia.co <conradpa@niaid.nih.gov>; Keveney, Sean (HHS/OGC) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2e13823250af4ccf93b3de562380e78e-Keveney, Se <Sean.Keveney@hhs.gov>; Stimson, Brian (HHS/OGC) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=338aa495176d4c92bb314f8f3f51d118-Stimson, Br <Brian.Stimson@hhs.gov>
<b>Sent Date:</b>	2020/02/04 14:55:33
<b>Delivered Date:</b>	2020/02/04 14:55:34

Withheld pursuant to exemption

(b)(5)

of the Freedom of Information Act



Withheld pursuant to exemption

(b)(5)

of the Freedom of Information Act

# ESTIMATING THE NUMBER OF EBOLA CASES AND PROPORTION OF CASES IN EFFECTIVE ISOLATION, THE DEMOCRATIC REPUBLIC OF CONGO, 2018-2019

## Ebola Case Projection Memo V3.19

### Contents

BOTTOM LINE SUMMARY/SUMMARY OF RESULTS .....	1
MAIN TABLES AND FIGURES .....	2
IMPORTANT CAVEATS .....	3
EXPANDED RESULTS .....	4
ACCURACY .....	4
SENSITIVITY ANALYSIS .....	4
METHODS .....	5
LIMITATIONS .....	5
APPENDIX 1: EbolaResponse tool: Methods and Assumptions .....	6
APPENDIX 2: Accuracy of Model Estimates .....	10
APPENDIX 3: Log of recent changes to previous memo versions .....	13

**Background:** On 1 August 2018, the Ministry of Health of the DRC declared a new outbreak of Ebola. As of 07 October 2019, 3,206 Ebola probable and confirmed cases have been reported by the WHO<sup>1</sup>, of whom 2,143 (67%) have died. To prevent onward transmission and perpetuation of the outbreak, it is critical to identify cases early so that they may be effectively isolated<sup>2</sup>, either by placement in an Ebola Treatment Unit and/or through effective vaccination of their contacts and contacts-of-contacts, so as to prevent onward transmission. Additionally, early treatment likely increases the chance of survival.

#### Questions/Objectives:

- What is the effectiveness of current intervention efforts, measured as the proportion of identified cases that are currently being identified and effectively isolated, either by placement in an Ebola Treatment Unit and/or by effective vaccination of their contacts and contacts-of-contacts, so as to prevent onward transmission?
- What is the potential impact of a hypothetical increase in cases effectively isolated on the likelihood of onward transmission?

#### Date: 9 October 2019

Authors: Centers for Disease Control and Prevention (CDC): Bishwa Adhikari, Brad Greening, Seonghye Jeon, Emily Kahn, Gloria Kang, Gabrielle Miller, Martin Meltzer, Health Economics and Modeling Unit (HEMU/DPEI); James Fuller (CGH/DGHP)

<sup>1</sup> WHO Ebola Health update – DRC 2019 – Ebola daily case numbers – 07 October 2019

(<https://www.who.int/emergencies/diseases/ebola/drc-2019/>)

<sup>2</sup> Effective isolation means preventing onward transmission of Ebola by ensuring that a patient is either physically isolated and / or their contacts are protected from infection. In addition, effective isolation can include minimizing the number of treatment facilities per case; vaccination of health care workers, frontline workers and community members, as well as Safe and Dignified Burials when needed.

**RED FLAG ALERT:** Based on the most recent data provided, we currently estimate that 65% of cases are effectively isolated, an increase from the 58% estimated in the previous memo. In addition, we have revised for August the estimates of the proportion of cases effectively isolated upwards from 58% to 59%. Assuming no changes, the epidemic is now projected to end by 5 May 2020 with 3,410 total cases. Other outbreak indicators have shown small levels of improvement (Table 2). Given the unknown degree of under-reporting of cases, however, these estimates of improvements should be interpreted with caution. To bring the outbreak to an end, the proportion of cases in effective isolation (ideally within 3 days of symptom onset) will need to reach (and be sustained at) approximately 70%.

## BOTTOM LINE SUMMARY/SUMMARY OF RESULTS

### BASE ANALYSIS

- **Percent not effectively isolated:** Based on 3,207 total cases reported up to 8 October 2019, approximately 35% of cases are not being effectively identified and isolated (i.e., 65% are effectively isolated) to prevent transmission of illness to others (see Table 1).
- **Projected number of cases:** Assuming that the proportion of Ebola cases not effectively isolated remains unchanged at 35% (Table 1), there will be an estimated cumulative total of 3,407 reported cases by 24 March 2020 (Figure 1a).
- Projections indicate that if the proportion of cases not effectively isolated remains at 35% (i.e., 65% effectively isolated), the number of new cases each week will decline slowly from now (early October 2019) through the end of March 2020, at which time there will be approximately 1 new case each week (Figure 1b). Assuming no changes, the epidemic would then end by 5 May 2020 with 3,410 total cases.

### SENSITIVITY ANALYSIS

- The projected number of future cases is sensitive to the proportion of cases that are effectively isolated.
  - If the proportion of cases that are being effectively isolated is decreased from 65% to 55% (i.e., 45% not effectively isolated), by 24 March 2020 there will be an estimated cumulative total of 3,621 Ebola cases, with 8 new cases per week (Figure 1b). In this scenario, the outbreak continues beyond September 2020.
  - If the proportion of cases that are effectively isolated is raised from 65% to 75% (i.e., 25% not effectively isolated), the outbreak effectively ends by 4 February 2020 with a total of 3,329 total cases.
- **Illustration: If the proportion of cases effectively isolated gradually improves:** An illustration of the potential impact of improved effectiveness of interventions was constructed by assuming the following: The proportion of Ebola cases effectively isolated is set at 65% (i.e., 35% not effectively isolated, Table 1) through 26 September 2019 and remains at 65% effectively isolated (35% not) during 27 September – 26 October 2019. Then, 70% of cases are effectively isolated (30% not) from 27 October – 25 December 2019; and 95% of cases are effectively isolated (5% not) from 26 December 2019 onward. Under those assumptions, the outbreak will end by 18 January 2020 (i.e., isolation of last case) with an estimated cumulative case count of 3,376 cases (Figure 1a).

## MAIN TABLES AND FIGURES

**Table 1. The estimated proportion of Ebola cases that are not effectively isolated, January 2019 - present<sup>††</sup>**

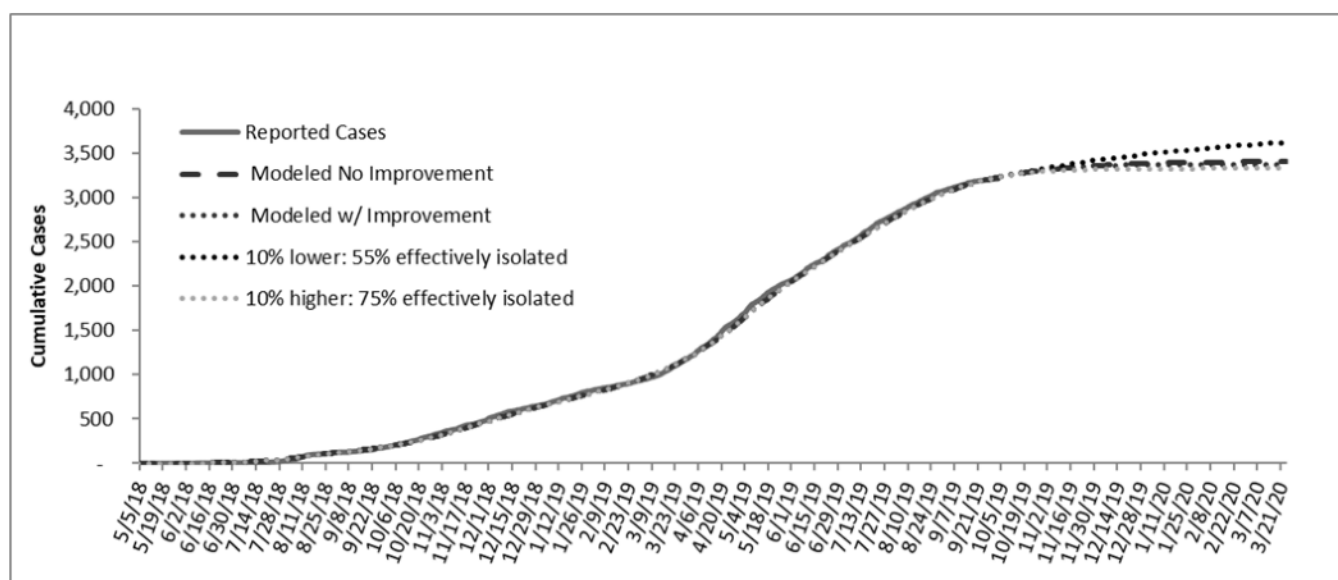
Outbreak Days	Dates	Proportion of cases <u>not</u> effectively isolated
<b>241-270</b>	31 Dec 2018 – 29 Jan 2019	50%
<b>271-300</b>	30 Jan – 28 Feb 2019	62%
<b>301-330</b>	1 Mar – 30 Mar 2019	67%
<b>331-360</b>	31 Mar – 29 Apr 2019	60%
<b>361-390</b>	30 Apr – 29 May 2019	43%
<b>391-420</b>	30 May – 28 June 2019	50%
<b>421-450</b>	29 June – 28 July 2019	48%
<b>451-480</b>	29 July – 27 Aug 2019	41%
<b>481-510</b>	28 Aug – 26 Sep 2019	35%
<b>Estimating cases forward assuming NO change in percent cases <u>not</u> effectively isolated</b>		
<b>511-690*</b>	27 Sep 2019 – 24 Mar 2020	35%
<b>Estimating cases forward assuming DECREASES in percent cases <u>not</u> effectively isolated</b>		
<b>511-540</b>	27 Sep – 26 Oct 2019	35%
<b>541-570</b>	27 Oct – 25 Nov 2019	30%
<b>571-600</b>	26 Nov – 25 Dec 2019	30%
<b>601-690</b>	26 Dec 2019 – 24 Mar 2020	5%

<sup>†</sup>These estimates were produced by fitting modeled data to reported case counts as described in methods below and in Appendix 1.

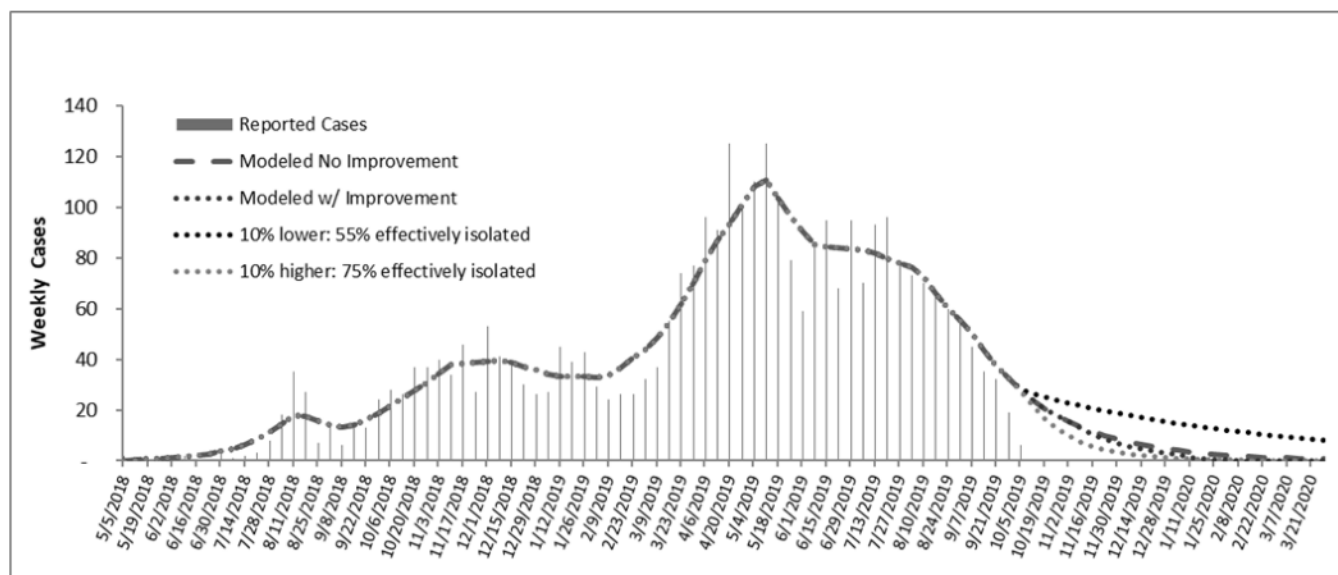
<sup>††</sup>The proportion of cases not effectively isolated for earlier time periods are listed in Appendix Table A4.1.

<sup>\*</sup>This assumes that no changes in the proportion of Ebola cases effectively isolated occurs after the date through which data have been provided.

**Figure 1a. Projected cumulative number of Ebola cases through 21 March 2020, with\* and without\*\* improvements in the proportion of cases effectively isolated (based on case reports as of 8 October 2019), base and sensitivity\*\*\* analysis – all reported cases<sup>†</sup>**



**Figure 1b. Projected weekly number of Ebola cases through 21 March 2020, with\* and without\*\* improvements in the proportion of cases effectively isolated (based on case reports as of 8 October 2019), base and sensitivity\*\*\* analysis – all reported cases<sup>¶</sup>**



\*The estimates of the scenario “Modeled with Improvement” were calculated assuming that there will be incremental improvements in effective isolation such that: 65% of cases are effectively isolated from 28 August – 26 October 2019; 70% of cases are effectively isolated from 27 October – 25 December 2019; and 95% of cases are effectively isolated from 26 December 2019 onward (see Table 1).

\*\*The estimates of future cases were produced by assuming that 35% of identified cases are only being isolated after they have infected other people and caused onward transmission (Table 1).

\*\*\*Sensitivity analyses demonstrate the projected number of Ebola cases if the modeled estimate of cases effectively isolated is +/- 10% than the base analysis (Table 1) beginning 27 September 2019.

¶For some cases, we imputed date of symptom onset. See Methods section for details.

## IMPORTANT CAVEATS

All case estimates and projections presented are based on reported case data provided by WHO on 8 October 2019, unless otherwise stated.

- The accuracy of case estimates and projections depends on the accuracy of case reports.
- The estimates and projections may change as more data are reported.
- Projections made for future dates become more uncertain the farther out we project, as it is unknown how conditions may change over time. The projections provided assume that the present trends and conditions remain unchanged into the future and should be interpreted as providing relative comparisons between intervention strategies (given all caveats and assumptions listed). The estimates should not be considered exact predictions of the future.

## EXPANDED RESULTS

Other epidemiologic indicators (Table 2) help evaluate the estimates presented here and assess the overall success of current response efforts. For example, during the past 3 weeks (from 18 September to 08 October), 20% of all new Ebola cases were only identified as Ebola cases at or after the time of death (i.e., community deaths), and 28% of new cases were not previously identified as contacts of other cases. Furthermore, only 39% of new cases were isolated early in the course of disease, i.e., within 3 days of symptom onset.

**Table 2: Additional outbreak indicators: Characteristics of new confirmed cases (n=59) for 18 September – 08 October 2019**

Characteristic	Cases	%	Target %*
Community Deaths <sup>†</sup>	12	20%	0%
Not Known Contacts	16	28%	20%
Cases isolated within 3 days of symptom onset	22	39%	70%
Known and Monitored Contacts	29	50%	80%
Health Care Worker Infections	2	3%	0%

<sup>†</sup>Cases identified at time of death. The high proportion of community deaths reported among confirmed cases, persistent delays in detection and isolation in ETUs, and challenges in the timely reporting and response to probable cases all collectively increase the likelihood of further chains of transmission in affected communities and contribute to increased risk of geographical spread within the Democratic Republic of the Congo and to neighboring countries. (CDC/CGH/DGHP Communication, 14 August 2019)

\*Targets are based on the assumption that in order to rapidly end the outbreak approximately 70% of cases must be effectively isolated. (1) This was shown to be a realistic policy goal in the 2014-16 West African Ebola outbreak. (12)

## ACCURACY

To track the accuracy of model estimates, we have been comparing the projected cases counts to the reported cases counts for 14 days, 28 days and 42 days from the date of the initial model run (Appendix Table A2.1). Since 30 January 2019, when we began imputing dates of symptom onset, modeled projections have been accurate to approximately 5% for the 14-day projections and around 10% for the 28-day projections on average (Appendix Table A2.1). Most projections have been under-estimated (i.e., actual cases recorded at a future date have been greater than those estimated from the model when the memo was produced). Some memos, however, included over-estimates of future cases (i.e., model results were greater than the resulting number of actual cases) (Appendix Figure A2.1); this may be due to an approximate 25% of cases not being reported during late May – early June 2019 (10,11). Since memo version 3.10 (produced 5 June 2019), model accuracy has notably improved, with projected estimates falling within 10% of actual case counts as far out as 12 weeks into the future. (Appendix: Table A2.1, Figure A2.1).

## SENSITIVITY ANALYSIS

We conducted a sensitivity analysis to show the impact of  $\pm 10\%$  difference in the percentage of cases that are effectively isolated on projections of future case counts (Figures 1a and 1b). In the base analysis, we estimate that 65% of cases are being effectively isolated from 28 August 2019 onward, resulting in an estimated 3,407 Ebola cases by 24 March 2020. If the estimated proportion of cases that are effectively isolated is lowered to 55% beginning 27 September 2019, there would be an estimated 3,621 Ebola cases by 24 March 2020 with 8 new cases per week; in this scenario, the outbreak would be expected to continue beyond September 2020. If the estimated proportion of cases that are effectively isolated is raised to 75% beginning 27 September 2019, the outbreak would be expected to effectively end as of 4 February 2020 with a total of 3,329 cases.

## **METHODS**

We used the EbolaResponse model (available at <http://dx.doi.org/10.15620/cdc.24900>) to determine the proportion of Ebola cases in two categories:

1. Patients effectively isolated (i.e., either by placement in an Ebola Treatment Unit and/ or their contacts and contacts-of-contacts are effectively vaccinated, so as to prevent onward transmission), such that there is a reduced risk of disease transmission
2. Patients not effectively isolated, such that there is continued risk of onward transmission.

Estimates of the proportions of cases in these categories were produced by fitting the modeled data to the actual confirmed/probable cumulative case counts from DRC (Appendix 1: Figure A1.2) provided by the Goma Analytic Cell, which reports to the DRC Ministry of Health's Emergency Operations Center.

### **Imputation of date of symptom onset for cases missing data**

Cases without reported date of symptom onset were assigned a date of symptom onset that was 7 days earlier than their case report dates. Of the 3,207 cases (3,093 confirmed + 114 probable) included in the analyses reported in this memo, 183 (6%) cases were missing date of symptom onset; for these cases we used the imputed date of symptom onset.

### **Additional description of Methods:**

A detailed description of the methods and assumptions used in the EbolaResponse model is provided in Appendix 1.

## **LIMITATIONS**

- The modeled data presented here project case counts through 24 March 2020. Estimates of future cases become more uncertain the farther out we project, as it is unknown how conditions may change over time. The projections provided assume that the present trends and conditions remain unchanged into the future and should be interpreted as providing the estimated impact of intervention vs. no intervention strategies.
- The EbolaResponse model uses 30-day increments to model changes in the proportion of Ebola cases assigned to each category.
- The main set of results presented in this memo do not take into account any corrections for underreporting. The World Health Organization has estimated that up to 25% of cases may not be recorded/reported (10, 11). There are no data on how such underreporting may have changed over the course of the epidemic to date.

## APPENDIX 1: EbolaResponse tool: Methods and Assumptions

### Model overview:

We built a spreadsheet-based model, called EbolaResponse, that allows a user to estimate the number of Ebola cases in the DRC and the proportion of cases that are effectively isolated such that onward Ebola transmission is prevented (1).

### Type of model:

Our model, EbolaResponse, tracks patients through the following states: Susceptible (not yet infected); infected people incubating Ebola virus (but not yet infectious), infectious, recovered or dead (an SIIR model). The model is in effect, a Markov Chain model, and is similar in concept to that built by Chowell et al. (2). The one exception is that Chowell et al. included a state labeled “Exposure” and did not include our “incubating but not infectious category”.

We use probabilities, drawn from reports of Ebola outbreaks, to model the daily movement of patients between and within the states. For example, for duration of incubation period, we adapted data from (3), which indicates the probability (likelihood) that patients will incubate 1, 2, 3 or more days, up to a maximum of 25 days (see below).

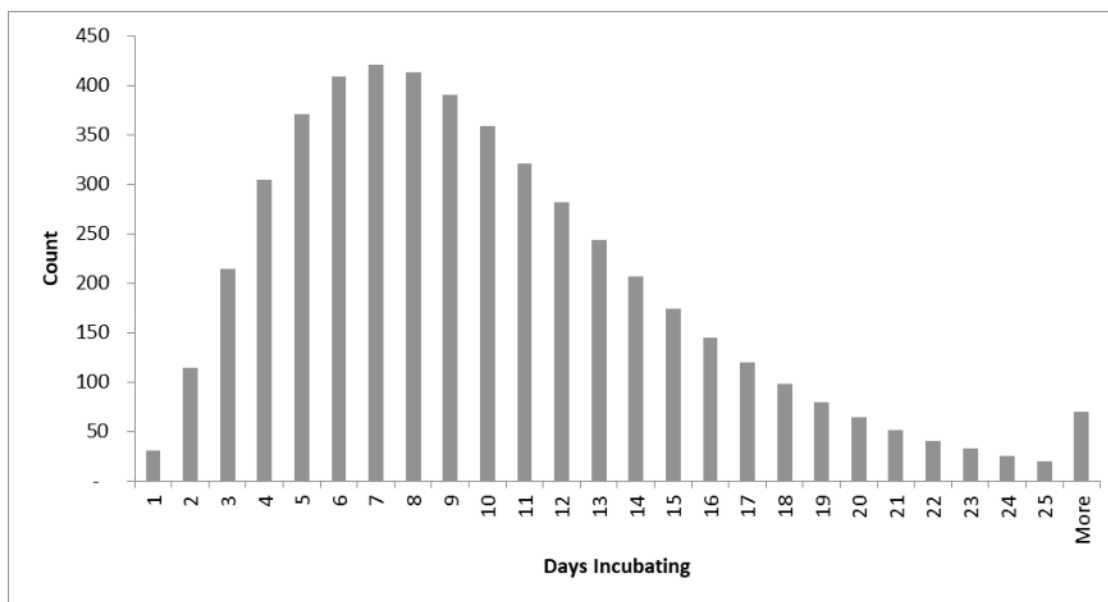
*Progression only:* A patient can only progress forward through the model, and can never regress (e.g., can never go from incubating back to susceptible). Nor can a patient skip a state (e.g., go from incubating to recovered, skipping infectious).

*Community size:* We used a community size of 78.7 million people (the estimated 2016 national population of the DRC, (3). The community size can be readily altered in the model.

*Incubation period:* We adapted published *probability distribution* data (3) to construct a gamma probability distribution of incubating with Ebola (Figure A1.1 and Table A1.1). We use a mean incubation period of 10.02 days (3).

Previous data from a 1995 outbreak in the Democratic Republic of the Congo (formerly Zaire) and a 2000 outbreak in Uganda (2), estimated mean incubation periods of 5.30 (SD 0.23) and 3.35 (SD 0.49) days, respectively. These appear to be lower than other published estimates (5, 6). Some of the differences may be attributable to different sub-types of the virus (5). Within the EbolaResponse model, the probability distribution for incubation can be readily changed to almost any structure desired, with an upper limit of 25 days incubation.

**Figure A1.1. Frequency distribution of probability of incubating with Ebola for a population = 5,000\***



\* Source: Adapted from (3).



**Table A1.1: Frequency distribution of probability of incubating with Ebola**

<i>Days</i>	<i>Frequency</i>	<i>Percent</i>	<i>Cumulative Percent</i>	<i>Days</i>	<i>Frequency</i>	<i>Percent</i>	<i>Cumulative Percent</i>
1	31	0.6%	0.2%	14	207	4.1%	79.6%
2	114	2.3%	1.6%	15	174	3.5%	83.4%
3	215	4.3%	4.9%	16	145	2.9%	86.6%
4	305	6.1%	10.1%	17	120	2.4%	89.2%
5	371	7.4%	16.9%	18	98	2.0%	91.4%
6	409	8.2%	24.7%	19	79	1.6%	93.2%
7	421	8.4%	33.1%	20	64	1.3%	94.6%
8	413	8.3%	41.5%	21	51	1.0%	95.7%
9	391	7.8%	49.5%	22	60	1.2%	96.7%
10	358	7.2%	57.0%	23	50	1.0%	97.4%
11	321	6.4%	63.8%	24	45	0.9%	98.0%
12	282	5.6%	69.8%	25	35	0.7%	98.4%
13	243	4.9%	75.1%				
				Totals	5,000	100.0%	

Source: Adapted from (3).

#### *Infectious period:*

Based on WHO data, we used an infectious period of 6 days (3). This would include any time taken for a traditional burial. Chowell et al, using data from a 1995 outbreak in the Democratic Republic of the Congo (formerly Zaire) and a 2000 outbreak in Uganda, estimated mean infectious periods of 5.6 and 3.35 days, respectively (2). This period of 6 days includes all stages of symptomatic illness. It is true that patients may be symptomatic for longer periods (see 3) but being symptomatic is different than having the risk of onward transmission.

Note that the risk of onward transmission, absent effective isolation, does change as a patient becomes sicker (7, 8). However, EbolaResponse does not track individual patients. Instead, the model employs aggregate (e.g., mean) risk of onward transmission, aggregated over the entire period of symptomatic illness (1).

*Potential risk:* The following description from northern Uganda indicates the potential risk, due to possible contact with a victim's body fluids, posed by traditional burial of an Ebola victim: "A brief study indicated that once a person died, his or her paternal aunt (father's sister) was called to wash and prepare the body for burial. If the father did not have a sister, an older woman in the victim's patriline was asked to prepare the body. Generally, the woman removed the clothes from the body, washed the body, and dressed the deceased in a favorite outfit. At the funeral, all family members ritually washed their hands in a common bowl, and during open casket all were welcome to come up to deceased person and give a final touch on the face or elsewhere (called a love touch). The body was then wrapped in a white cloth or sheet and buried." (9)

#### *Population "governor"*

Although we explicitly don't include an "exposed" population element in the model, we do include a population "governor" that prevents the model from calculating more cases than the inputted population. This "over-calculation" could happen if one assumes that there is a relatively large percentage (defined below) of the population that become infected and are not effectively isolated, presenting a risk of onward disease transmission (Table A1.3).

We programmed the governor by simply reducing the daily estimate of the persons newly infected proportionate to the cumulative reduction in the susceptible population, as follows:

Factor to reduce estimate of newly infected at Day  $t$  = (Model population – cumulative total of newly infected up to day  $(t-1)$ ) / model population.

What this "governor" essentially does is to reduce, on a daily basis, the effective number of persons infected (i.e., effectively lowers the risk of transmission inputs shown in Table A1.3). In most instances, with "large populations," this

governor is unlikely to impact the calculations. The “governor” only begins to appreciably impact estimates (i.e., reduce them) when approximately 40% - 50% of the population have become infected.

#### *Population and numbers initially infected*

Country: The Democratic Republic of the Congo

Total Population: 78.7 million

Number Initially Infected: 1

#### *Distribution of patient by category over time*

As explained in the main text, we split the patients into two categories of isolation, as follows:

1. Patients effectively isolated (i.e., hospitalized in ETCs or otherwise receiving medical care), such that there was reduced contact with others and a reduced risk of disease transmission.
2. Patients not effectively isolated, such that there was continued risk of onward transmission.

We explain how we calculate the percentage of patients in each category in the “goodness-of-fit” sub-section (below).

The risk of onward transmission from an Ebola patient to susceptible persons, by patient category, is shown in Table A1.3.

The distribution of patients into these categories affects the overall progress of the epidemic. The more patients in the “effectively isolated” category, the slower the progress of the epidemic because this category has a transmission rate of less than 1 person infected per infectious person. The distribution of patients into these categories, and how we changed those distributions over time, is shown in Table 1.

**Table A1.3: Risk of onward transmission by category of patient: Values fitted to data compared to those in the literature**

Patient category	Daily risk of onward transmission		Total numbers infected per infectious person**		
	Values from literature (95% CI) <sup>†</sup>	Values used to fit to data in DRC*	Values from literature (95% CI)	Model estimates	
Effectively isolated	DRC 0.1134 (0.00001 – 0.5842)	0.03	DRC 0.4 (0 – 2.2)	0.18	
	Uganda 0.0017 (0.0 – 0.918)		Uganda 0.01 (0 – 3.5)		
No effective isolation	DRC 1.0932 (0.00001 – 1.4281)	0.3	DRC 1.8 (0 – 2.3)	1.8	
	Uganda 0.066 (0.0 – 3.0367)		Uganda 0.1 (0 – 3.2)		

\* These are the values used in the model in order to obtain a “good fit” to the data-to-date.

\*\* Values of “Total number of persons infected per infectious person”: When these values remain below 1 person infected per infectious person, then the epidemic will eventually end. For model: These are the equivalent values used to fit the model to the data, assuming 6 days of infectiousness (e.g.,  $0.3 \times 6 = 1.8$  persons infected per infectious person as per model fit)

<sup>†</sup> Values adapted from weekly values given by Legrand et al (6), from Ebola outbreaks in 1995 in Democratic Republic of Congo (DRC) (formerly Zaire), 2000 in Uganda. CI = Confidences Intervals.

<sup>††</sup> We used, as proxies for “effective isolation,” Legrand et al.’s measurements of “community component” (without burial) from DRC, as these were below 1.

Source; Adapted from Legrand et al., 2007 (6).

#### *Goodness-of-Fit:*

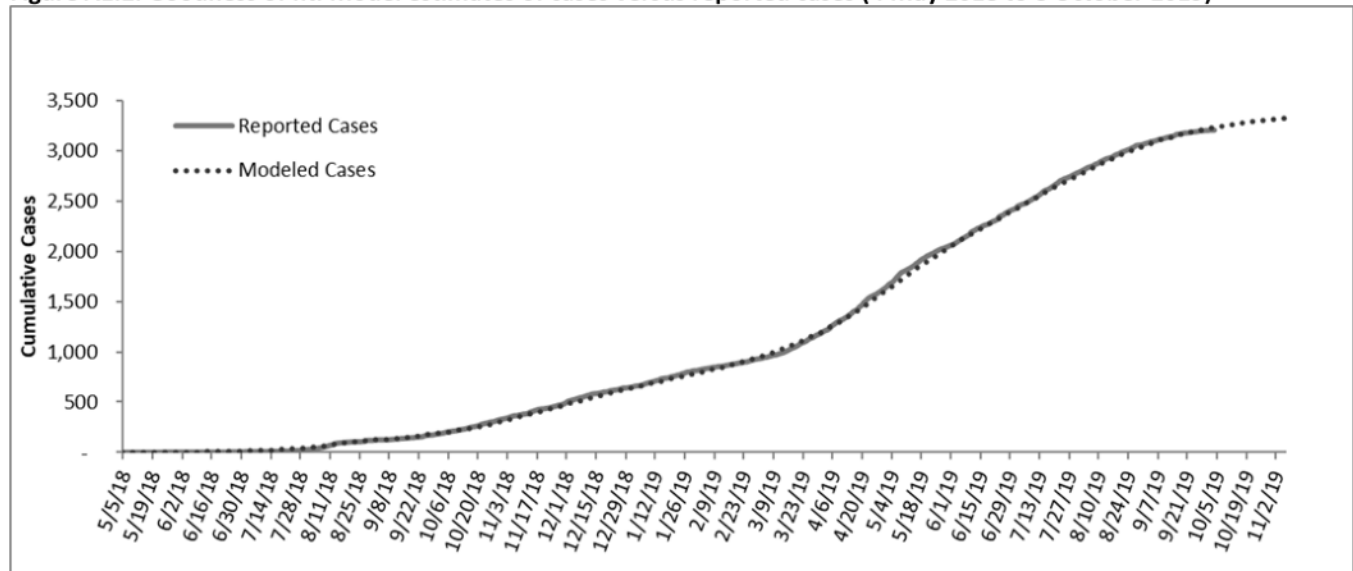
##### *Scenarios: Fitting to the existing data*

For the original conception of the model, we essentially “reverse engineered” the following variables:

- i) Percentage of patients in each of the categories (effectively isolated; No effective isolation), with percentages changing over time (increments of 30 days) (see Main Text, Table 1).
- ii) Risk of transmission by type of patient, with daily risk of onward transmission changing over time (increments of 30 days) (see Appendix Table A1.3).

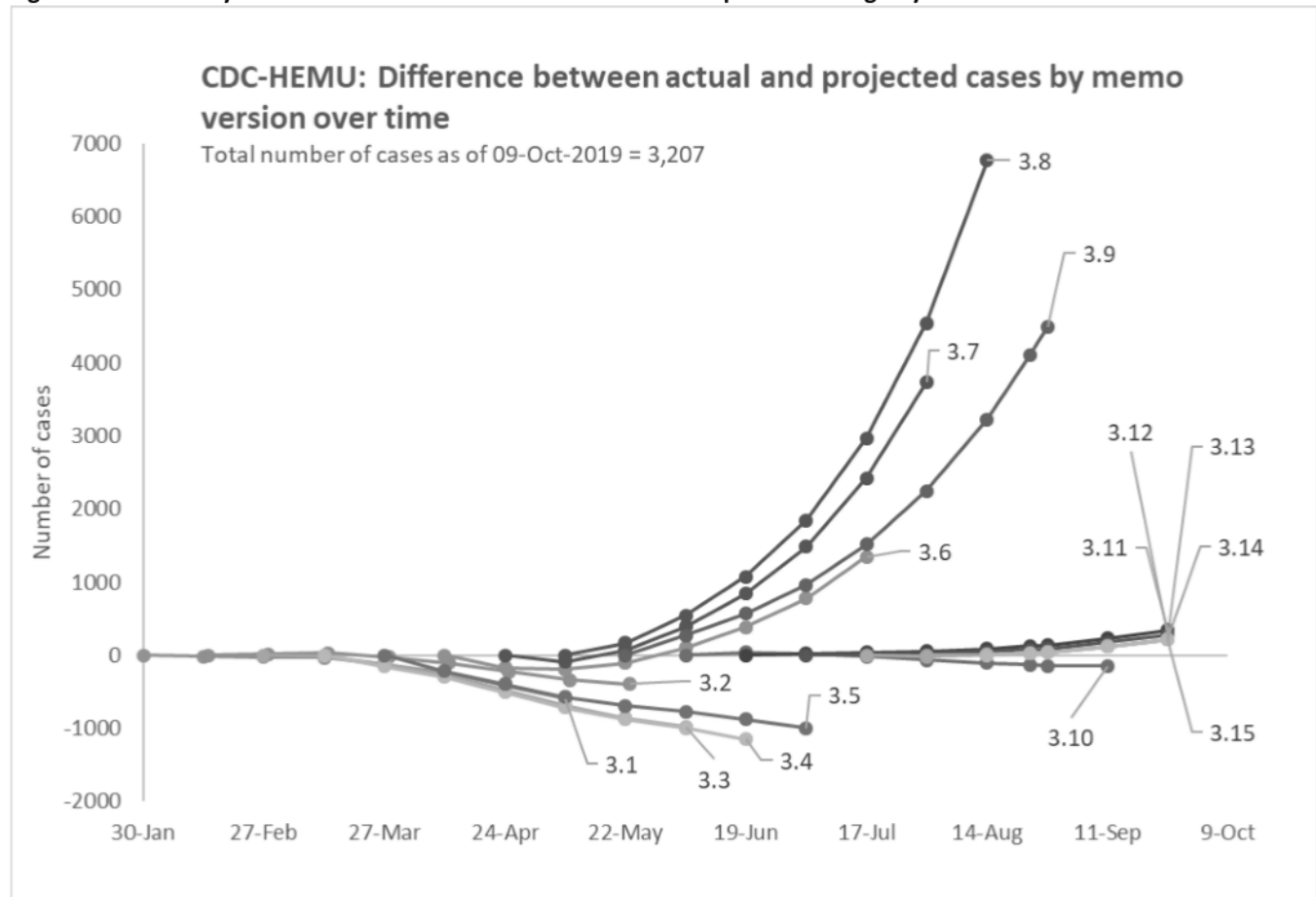
For the purpose of this analysis, we held fixed the previously used values for risk of transmission and only varied the percentage of patients in each of the three categories. Essentially, we “balance” the percentages in “effectively isolated” and “NOT effectively isolated” until the plot of the model “fits” the plot of the actual data, as shown in Figure A1.2. Figure A1.2 shows the goodness-of-fit, comparing estimates of cases produced using EbolaResponse model to reported confirmed and probable Ebola cases.

**Figure A1.2. Goodness of fit: Model estimates of cases versus reported cases (4 May 2018 to 8 October 2019)**



## APPENDIX 2: Accuracy of Model Estimates

**Figure A2.1 Accuracy of Ebola case estimates in the Democratic Republic of Congo by memo version over time\*†**



\*Note: See Table A2.1 for detailed summary of accuracy for all memos produced.

† The graph shows plots of accuracy, in 2-week segments, of selected memo versions of previous memos indicated by the version number. The y-axis represents count differences between modeled future cases and actual case counts on a given date. For example, the plot of memo version 3.7 (produced 24 April 2019), shows that those estimates of cases expected by 8 May 2019 differed by about 88 cases (5%) below the actual number of cases that occurred on that date. By 19 June 2019, the estimates produced on 24 April 2019 were approximately 37% greater (N = 847 cases) than actually reported. This decrease in accuracy is attributed to the temporary decline in reported cases in late May – which may be due to an approximate 25% of cases not being reported during that period. (10, 11)

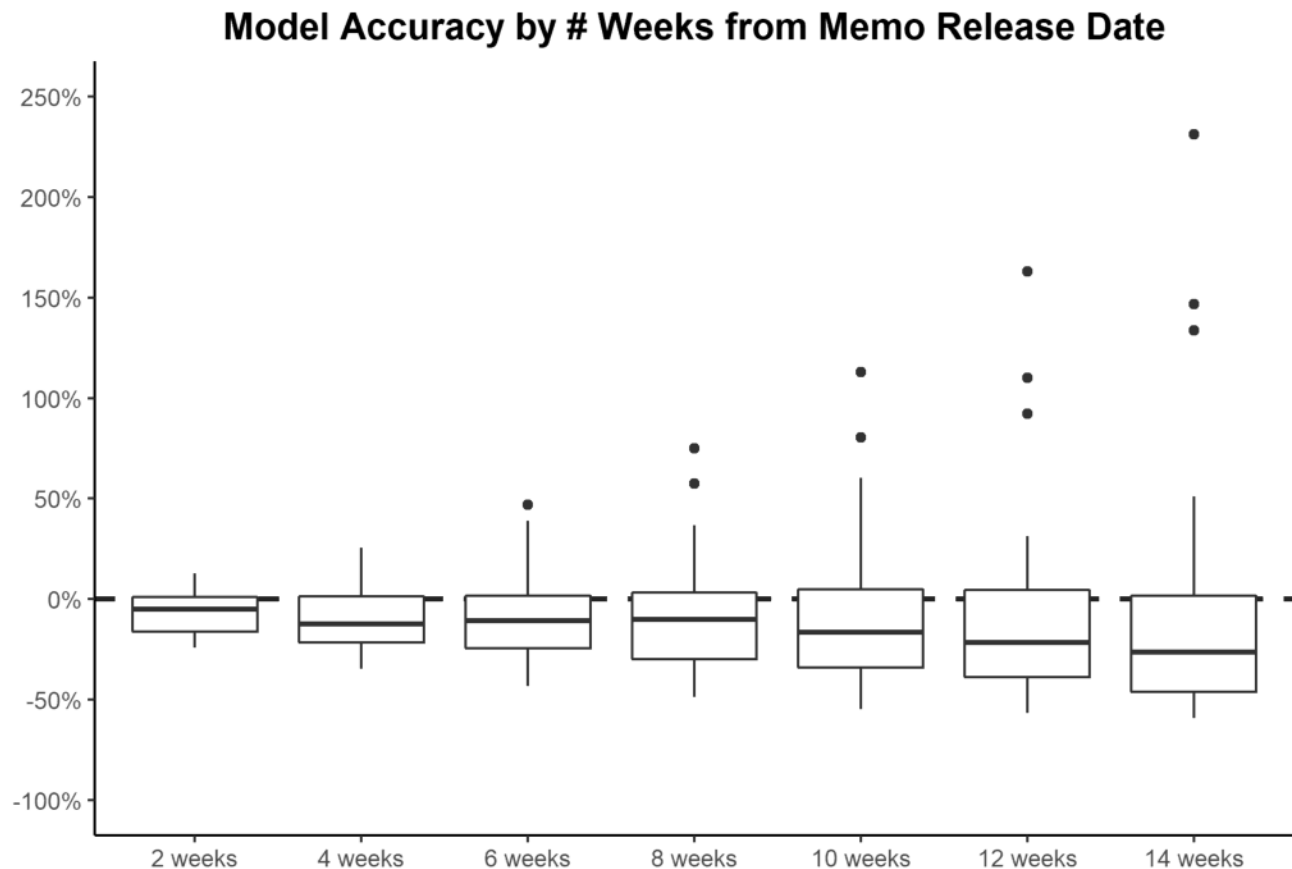
**Figure A2.2 Boxplot of accuracy of Ebola case estimates in the Democratic Republic of Congo**

Figure A2.2 is a box-plot of accuracy of all the results reported in the memos (Figure A2.1), regardless of the date of when the estimate was made. The plot is given in standard Tukey format, where the boxes plot the range of the middle 50% of all estimates (Quartile 1 – Quartile 3). The box is split by a line indicating the median. The ‘whiskers’ extend to the farthest point that are not considered outliers, where an outlier is shown by a dot, and is defined as being  $>1.5x$  the interquartile range (Quartile 1 – Quartile 3) from the end of the box.

Interpretation: The majority of the memos have under-estimated reported cases by less than 50% (i.e., the boxes are between 0% and -50%). A small percentage (less than 10%) of estimates over-estimated by more than 100% (the top of the “whiskers” at 10, 12 and 14 weeks), however, all such estimates are considered outliers according to the definition given above.

**Table A2.1. Accuracy of Ebola case estimates in Democratic Republic of Congo, 2-, 4-, and 6-weeks post-estimate\*^**

Memo Version and Date Data date and total reported cases				14-day (2 weeks)				28-day (4 weeks)				42-day (6 weeks)			
				Date	Actual	Estimated	% diff	Date	Actual	Estimated	% diff	Date	Actual	Estimated	% diff
1.1	11-Oct-18	5-Oct-18	179	19-Oct-18	260	199	-23%	2-Nov-18	330	216	-35%	16-Nov-18	410	232	-43%
2.0	18-Oct-18	16-Oct-18	214	30-Oct-18	317	240	-24%	13-Nov-18	386	268	-31%	27-Nov-18	462	297	-36%
2.1	23-Oct-18	23-Oct-18	238	6-Nov-18	347	289	-17%	20-Nov-18	424	329	-22%	4-Dec-18	504	368	-27%
2.2	6-Nov-18	5-Nov-18	305	19-Nov-18	422	352	-17%	3-Dec-18	500	398	-20%	17-Dec-18	580	443	-24%
2.3	14-Nov-18	14-Nov-18	339	28-Nov-18	467	411	-12%	12-Dec-18	554	475	-14%	26-Dec-18	618	544	-12%
2.4	21-Nov-18	21-Nov-18	373	5-Dec-18	513	442	-14%	19-Dec-18	589	509	-14%	2-Jan-19	650	580	-11%
2.5	6-Dec-18	4-Dec-18	458	20-Dec-18	596	504	-15%	3-Jan-19	653	550	-16%	17-Jan-19	723	591	-18%
2.6	19-Dec-18	17-Dec-18	542	2-Jan-19	650	570	-12%	16-Jan-19	721	623	-14%	30-Jan-19	799	674	-16%
2.7	2-Jan-19	2-Jan-19	598	16-Jan-19	721	593	-18%	30-Jan-19	799	623	-22%	13-Feb-19	859	648	-25%
2.8	15-Jan-19	15-Jan-19	648	29-Jan-19	797	630	-21%	12-Feb-19	857	658	-23%	26-Feb-19	914	681	-25%
V 3.1	30-Jan-19	30-Jan-19	733	13-Feb-19	859	837	-3%	27-Feb-19	924	900	-3%	13-Mar-19	997	962	-4%
V 3.2	14-Feb-19	14-Feb-19	820	28-Feb-19	931	948	2%	14-Mar-19	1006	1037	3%	28-Mar-19	1161	1132	-2%
V 3.3	27-Feb-19	27-Feb-19	871	13-Mar-19	997	947	-5%	27-Mar-19	1147	988	-14%	10-Apr-19	1325	1022	-23%
V 3.4	13-Mar-19	13-Mar-19	920	27-Mar-19	1147	988	-14%	10-Apr-19	1325	1022	-23%	24-Apr-19	1559	1052	-33%
V 3.5	27-Mar-19	27-Mar-19	1,020	10-Apr-19	1325	1103	-17%	24-Apr-19	1559	1165	-25%	8-May-19	1796	1226	-32%
V 3.6	10-Apr-19	10-Apr-19	1,177	24-Apr-19	1559	1390	-11%	8-May-19	1796	1601	-11%	22-May-19	1978	1870	-5%
V 3.7	24-Apr-19	24-Apr-19	1,360	8-May-19	1796	1705	-5%	22-May-19	1978	2049	4%	5-Jun-19	2118	2510	19%
V 3.8	8-May-19	8-May-19	1,591	22-May-19	1978	2144	8%	5-Jun-19	2118	2660	26%	19-Jun-19	2284	3360	47%
V 3.9	22-May-19	20-May-19	1,857	5-Jun-19	2118	2391	13%	19-Jun-19	2284	2851	25%	3-Jul-19	2463	3425	39%
V 3.10	5-Jun-19	5-Jun-19	2,016	19-Jun-19	2284	2324	2%	3-Jul-19	2463	2475	0%	17-Jul-19	2628	2607	-1%
V 3.11	19-Jun-19	19-Jun-19	2,181	3-Jul-19	2463	2486	1%	17-Jul-19	2628	2665	1%	31-Jul-19	2792	2842	2%
V 3.12	3-Jul-19	3-Jul-19	2,372	17-Jul-19	2628	2636	0%	31-Jul-19	2792	2806	1%	14-Aug-19	2930	2975	2%
V 3.13	17-Jul-19	17-Jul-19	2,515	31-Jul-19	2792	2771	-1%	14-Aug-19	2930	2933	0%	28-Aug-19	3057	3093	1%
V 3.14	31-Jul-19	31-Jul-19	2,690	14-Aug-19	2930	2933	0%	28-Aug-19	3057	3093	1%	11-Sep-19	3135	3252	4%
V 3.15	14-Aug-19	14-Aug-19	2,843	28-Aug-19	3057	3093	1%	11-Sep-19	3135	3252	4%	25-Sep-19	3193	3409	7%
V 3.16	28-Aug-19	28-Aug-19	2,997	11-Sep-19	3135	3241	3%	25-Sep-19	3193	3389	6%	9-Oct-19	-	3534	-
V 3.17	11-Sep-19	11-Sep-19	3,091	25-Sep-19	3193	3284	3%	9-Oct-19	-	3391	-	23-Oct-19	-	3490	-
V 3.18	25-Sep-19	24-Sep-19	3,175	9-Oct-19	-	3302	-	23-Oct-19	-	3368	-	6-Nov-19	-	3425	-
V 3.19	9-Oct-19	8-Oct-19	3,207	23-Oct-19	-	3293	-	6-Nov-19	-	3323	-	20-Nov-19	-	3346	-

\*Actual case counts taken from CDC line list data; includes all confirmed and probable cases. ^ Models (from version 3.1 onward) were run using cases with imputed date-of-symptom onset. Including those with imputed date-of-symptom onset improves the model fit. The number of cases with imputed date-of-symptom onset is provided in the Methods section of the main text. Case count data from WHO line listing starting from version 3.16 (28-Aug-19).

### APPENDIX 3: Log of recent changes to previous memo versions

(Full log of all changes to each previous memo version and changes in estimates over time are available upon request to: [eocmodelingunit@cdc.gov](mailto:eocmodelingunit@cdc.gov))

#### **Changes from V3.18 to 3.19**

- Updated model fit with case report data provided by WHO in coordination with CDC IMS Ebola Response Epi-Lab Task Force available through 8 October 2019.
- Estimated the projected case counts and impact of improving the proportion of Ebola cases effectively isolated assuming the following changed scenario for future changes in the proportion of cases effectively isolated such that onward transmission is prevented:
  - 59% of cases from 29 July – 27 August 2019
  - 65% of cases from 28 August – 26 September 2019
  - 65% of cases from 27 September – 26 October 2019
  - 70% of cases from 27 October – 25 November 2019
  - 70% of cases from 26 November – 25 December 2019
  - 95% of cases from 26 December 2019 – 24 March 2020

#### **Changes from V3.17 to 3.18**

- Updated model fit with case report data provided by WHO in coordination with CDC IMS Ebola Response Epi-Lab Task Force available through 24 September 2019.
- Estimated the projected case counts and impact of improving the proportion of Ebola cases effectively isolated assuming the following changed scenario for future changes in the proportion of cases effectively isolated such that onward transmission is prevented:
  - 52% of cases from 29 June – 28 July 2019
  - 58% of cases from 29 July – 27 August 2019
  - 58% of cases from 28 August – 26 September 2019
  - 58% of cases from 27 September – 26 October 2019
  - 64% of cases from 27 October – 25 November 2019
  - 70% of cases from 26 November – 25 December 2019
  - 95% of cases from 26 December 2019 – 23 February 2020

#### **Changes from V3.16 to 3.17**

- Updated model fit with case report data provided by WHO in coordination with James Fuller (CGH/DGHP) available through 10 September 2019.
- Estimated the projected case counts and impact of improving the proportion of Ebola cases effectively isolated assuming the following changed scenario for future changes in the proportion of cases effectively isolated such that onward transmission is prevented:
  - 52% of cases from 29 June – 28 July 2019
  - 54% of cases from 29 July – 27 August 2019
  - 54% of cases from 28 August – 26 September 2019
  - 54% of cases from 27 September – 26 October 2019
  - 62% of cases from 27 October – 25 November 2019\*
  - 70% of cases from 26 November – 25 December 2019
  - 95% of cases from 26 December 2019 – 23 February 2020

\*Note: Schedule for improvement in interventions schedule changed to start on 27 October 2019.

- Removed the sensitivity analysis scenario of a 20% improvement to the current/base analysis.

#### **Changes from V3.15 to 3.16**

- The source of data used to update model fit was changed from the CDC dataset to the WHO dataset. The data from these sources was very similar and this change had a negligible impact on model fitness and results.
- Updated model fit with case report data provided by WHO in coordination with James Fuller (CGH/DGHP) available through 27 August 2019.

- Estimated the projected case counts and impact of improving the proportion of Ebola cases effectively isolated assuming the following changed scenario for future changes in the proportion of cases effectively isolated such that onward transmission is prevented:
  - 51% of cases from 29 July – 27 August 2019
  - 51% of cases from 28 August – 26 September 2019
  - 60% of cases from 27 September – 26 October 2019\*
  - 70% of cases from 27 October – 25 November 2019
  - 95% of cases from 26 November 2019 – 23 February 2020

\*Note: Schedule for improvement in interventions schedule changed to start on 27 September 2019.



## LITERATURE CITED

1. Meltzer MI, Atkins CY, Santibanez S, Knust B, Petersen BW, Ervin ED, Nichol ST, Damon IK, Washington ML, 2014. Estimating the future number of cases in the Ebola epidemic --- Liberia and Sierra Leone, 2014–2015. *MMWR Surveill Summ* 2014;63:1-14.
2. Chowell G, Hengartner NW, Castillo-Chavez C, Fenimore PW, Hyman JM. The basic reproductive number of Ebola and the effects of public health measures: the cases of Congo and Uganda. *J Theor Biol.* 2004 Jul 7;229(1):119-26.
3. WHO Ebola Response Team. Ebola virus disease in West Africa--the first 9 months of the epidemic and forward projections. *N Engl J Med.* 2014 Oct 16;371(16):1481-95.
4. United Nations DoEaSA, Population Division. World Population Prospects: The 2017 Revision, custom data acquired via website. 2017 [cited 10 October 2018]; Available from: <https://population.un.org/wpp/DataQuery/>
5. Eichner M, Dowell SF, Firese N. Incubation period of Ebola hemorrhagic virus subtype zaire. *Osong Public Health Res Perspect.* 2011 Jun;2(1):3-7.
6. Legrand J, Grais RF, Boelle PY, Valleron AJ, Flahault A. Understanding the dynamics of Ebola epidemics. *Epidemiol Infect.* 2007 May;135(4):610-21.
7. Lindblade KA, Nyenswah TG, Keita S, Diallo B, Kateh F, Amoah A, et al. Secondary Infections with Ebola Virus in Rural Communities, Liberia and Guinea, 2014–2015. *Emerg Infect Dis.* 2016;22(9):1653-1655. <https://dx.doi.org/10.3201/eid2209.160416>.
8. Lindblade KA, Kateh F, Nagbe TK, Neatherlin JC, Pillai SK, Attfield KR, et al. Decreased Ebola Transmission after Rapid Response to Outbreaks in Remote Areas, Liberia, 2014. *Emerg Infect Dis.* 2015;21(10):1800-1807. <https://dx.doi.org/10.3201/eid2110.150912>.
9. Hewlett BS, Amola RP. Cultural contexts of Ebola in northern Uganda. *Emerg Infect Dis.* 2003;9(10):1242-8.
10. Soucheray S. No 'reset' with Ebola outbreak, WHO official says. June 06, 2019. Available at: [cidrap.umn.edu/news-perspective/2019/06/no-reset-ebola-outbreak-who-official-says](http://cidrap.umn.edu/news-perspective/2019/06/no-reset-ebola-outbreak-who-official-says) (accessed 04 July 2019).
11. Branswell H. WHO sees progress in Ebola response, but others see a grimmer reality. June 06, 2019. Available at: <https://www.statnews.com/2019/06/06/who-sees-progress-in-ebola-response-but-others-see-a-grimmer-reality/> (accessed 04 July 2019).
12. Frieden TR, Damon IK. Ebola in West Africa--CDC's Role in Epidemic Detection, Control, and Prevention. *Emerg Infect Dis.* 2015; 21:1897-1905.

**From:** Peter Bogner <peter@gisaid.org>

'Makoto Takeda' <mtakeda@nih.go.jp>;  
'n-nao' <n-nao@niid.go.jp>;  
<21620140154227@stu.xmu.edu.cn>;  
Ab Osterhaus <albert.osterhaus@tiho-hannover.de>;  
Acep Somantri <(b)(6)@gmail.com>;  
Aeron Hurt <aeron.hurt@roche.com>;  
Agus Purwadianto <(b)(6)@gmail.com>;  
Alfonso Javier Rodriguez-Morales <(b)(6)@gmail.com>;  
AliReza Eshaghi <alireza.eshaghi@oahpp.ca>;  
Amadou Alpha SALL <Amadou.SALL@pasteur.sn>;  
Ana Maria Henao Restrepo <henaorestrepoa@who.int>;  
Andrea Tyler <(b)(6)@gmail.com>;  
Andrey B. Komissarov <(b)(6)@gmail.com>;  
Anna Majer <anna.majer@canada.ca>;  
Anne Kelso <anne.kelso@nhmrc.gov.au>;  
Bancej, Christina (PHAC/ASPC) <christina.bancej@canada.ca>;  
Barbara Muehlemann <bm446@cam.ac.uk>;  
Ben Turner <ben.turner@qiagen.com>;  
Beverly Taylor <beverly.taylor@seqirus.com>;  
Biere, Barbara <BiereB@rki.de>;  
Bill Steiger <wsteiger@usaid.gov>;  
Bill Warren <William.Warren@sanofi.com>;  
Bimalesh Kumar Jha <(b)(6)@yahoo.com>;  
Braun Nils <Nils.Braun@sgdsn.gouv.fr>;  
Brian Rosen <brosen@novavax.com>;  
Bruce Gellin <bruce.gellin@sabin.org>;  
Bruno Lina <bruno.lina@chu-lyon.fr>;  
Caly, Leon <Leon.Caly@vidrl.org.au>;  
Capobianchi Maria Rosaria <maria.capobianchi@inmi.it>;  
Catton, Mike <Mike.Catton@vidrl.org.au>;  
Cedric Mahe <Cedric.Mahe@sanofi.com>;  
Chen Zhu <zchen@stn.sh.cn>;  
**To:** Chris Baggoley <(b)(6)@outlook.com>;  
Chris Hunter <chris@gigasciencejournal.com>;  
Christian Drosten <christian.drosten@charite.de>;  
Clotilde Seblain <Clotilde.ElGuercheSeblain@sanofi.com>;  
Cornelius Schmaltz <Cornelius.SCHMALTZ@ec.europa.eu>;  
Cuauhtémoc Mancha Moctezuma <(b)(6)@gmail.com>;  
Daniel Chu <dkwchu@hku.hk>;  
Jernigan, Daniel B. (CDC/DDID/NCIRD/ID) /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=ea51e17a084644918dbec2d9b4db2a0f-Jernigan, D  
<dbj0@cdc.gov>;  
David Loew <david.loew@sanofi.com>;  
David Warrilow <David.Warrilow@health.qld.gov.au>;  
Dawn O'Connell <dawn.oconnell@cepi.net>;  
Dayan Wang <dayanwang@cnic.org.cn>;  
De Ambrogi, Marco (ELS-LOW) <marco.deambrogi@lancet.com>;  
Dee Ann Bagwell <dbagwell@ph.lacounty.gov>;  
Dennis Carroll <(b)(6)@gmail.com>;  
Dominic Tsang <nctsang@dh.gov.hk>;  
Dueger, Erica /FR <Erica.Dueger@sanofi.com>;  
Duncan MacCannell <dmacannell@cdc.gov>;  
Dylan Liu Di <liud@wh.iov.cn>;  
Eddy Rubin <(b)(6)@gmail.com>;  
Elisabeth Neumeier <elisabeth.r.neumeier@gsk.com>;  
Elizabeth Ferdinand <(b)(6)@hotmail.com>;  
Ernesto Ramirez <josee.ramirez@salud.gob.mx>;  
GRUNER, WILLIAM E CTR USAF AFMC USAFSAM/PHE <william.gruner.1.ctr@us.af.mil>;  
Gannon Mak <so\_phls10@dh.gov.hk>;  
Gary Grohmann <(b)(6)@icloud.com>;  
George Fu Gao <gaof@im.ac.cn>;  
George Tsiaroua <(b)(6)@unimelb.edu.au>;  
Giuseppe Ippolito <giuseppe.ippolito@inmi.it>;  
Lobel, Hannah (STATE.GOV) /o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=229554db163e4ce4ad12d5cbd6a3ace1-Hannah.Lobe

<lobelhj@state.gov>;  
 Haogao Gu <hggu@connect.hku.hk>;  
 Heidi Meyer <Heidi.meyer@pei.de>;  
 Hideki Hasegawa <hasegawa@nih.go.jp>;  
 Huanming Henry Yang <(b)(6)@gmail.com>;  
 Huanming Henry Yang <yanghuanming@genomics.cn>;  
 Huma Qureshi <(b)(6)@gmail.com>;  
 Ines Steffens <Ines.Steffens@ecdc.europa.eu>;  
 Irma López-Martínez <Irma.lopez@salud.gob.mx>;  
 Jade Cogdale <Jade.Cogdale@phe.gov.uk>;  
 Jane Aceng <acengj@parliament.go.ug>;  
 Jane Halton <(b)(6)@gmail.com>;  
 Janneth Mghamba <(b)(6)@yahoo.com>;  
 Jason Gale <j.gale@bloomberg.net>;  
 Jasper Chan <jfwchan@hku.hk>;  
 Javier Díez-Domingo <(b)(6)@gmail.com>;  
 Jennifer Seedorff <SeedorffJE@state.gov>;  
 Jeong-Min Kim <jmkim97@korea.kr>;  
 Ji-Rong Yang <ggyang@cdc.gov.tw>;  
 Jing Lu <(b)(6)@gmail.com>;  
 Jing Wang <wangjing@psych.ac.cn>;  
 Jing Wang <jing.wang@esr.cri.nz>;  
 Joep de Ligt <joep.deligt@esr.cri.nz>;  
 John McCauley <John.McCauley@crick.ac.uk>;  
 John Watson <john.watson@phe.gov.uk>;  
 John-Sebastian Eden <(b)(6)@sydney.edu.au>;  
 Joseph Scovitch <ScovitchJR@state.gov>;  
 José Alberto Díaz <adiaz@unam.mx>;  
 Julia Tree <Julia.Tree@phe.gov.uk>;  
 Julian Druce <julian.druce@mh.org.au>;  
 Kanta Subbarao <kanta.subbarao@influenzacentre.org>;  
 Karin Knufmann-Happe <(b)(6)@icloud.com>;  
 Kathrin Jansen <Kathrin.Jansen@pfizer.com>;  
 Kedar Baral <(b)(6)@pahs.edu.np>;  
 Keiji Fukuda <kfukuda@hku.hk>;  
 Keith Hamilton <k.hamilton@oie.int>;  
 Kerri-Ann Jones <(b)(6)@verizon.net>;  
 Kun Shi <shik@most.cn>;  
 Kerr, Lawrence (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=8ce9de2e7497472bb758f8fd6e262c86-Kerr, Lawre  
 <Lawrence.Kerr@hhs.gov>;  
 Laurie Garrett <laurie@lauriegarrett.com>;  
 Leo Poon <llmpoon@hku.hk>;  
 Liebenberg, Volker <vliebenberg@illumina.com>;  
 Lili Ren <renlili@163.com>;  
 Lokman Hakim <(b)(6)@imu.edu.my>;  
 Lothar Wieler <president-RKI-Office@rki.de>;  
 Luo Ting <307358774@qq.com>;  
 Lyon-chanteloup Aude <Aude.Lyon-chanteloup@sgdsn.gouv.fr>;  
 Mahmudur Rahman <(b)(6)@hotmail.com>;  
 Makarim Wibisono <(b)(6)@hotmail.com>;  
 Malik Peiris <malik@hkucc.hku.hk>;  
 Marc Eloit <marc.eloit@pasteur.fr>;  
 Maria Van Kerkhove <vankerkhovem@who.int>;  
 Maria Zambon <maria.zambon@phe.gov.uk>;  
 Mariana Viegas <(b)(6)@gmail.com>;  
 Marie-Paule Kieny <(b)(6)@gmail.com>;  
 Mark Renton <(b)(6)@gmail.com>;  
 Mark Schultz <mark.schultz@unimelb.edu.au>;  
 Masato Tashiro <(b)(6)@gmail.com>;  
 Mia Brytting <mia.brytting@folkhalsomyndigheten.se>;  
 Michael J. Ryan <ryanm@who.int>;  
 Monica Galiano <monica.galiano@crick.ac.uk>;  
 Monique Eloit <m.eloit@oie.int>;  
 Naomi Komadina <naomi.komadina@influenzacentre.org>;  
 Nísia Trindade Lima <nisia.lima@fiocruz.br>;

Norris, Sarah <Sarah.Norris@health.gov.au>;  
 Oberholzer, Michael <moberholzer@illumina.com>;  
 Olav Hungnes <olhu@fhi.no>;  
 Oliver Drechsel <drechsel@rki.de>;  
 Othmar Engelhardt <Othmar.Engelhardt@nibsc.hpa.org.uk>;  
 Owen, Rhonda <Rhonda.Owen@health.gov.au>;  
 PEISLEY, Hope <Hope.Peisley@health.gov.au>;  
 PREZIOSI, Marie-pierre <preziosim@who.int>;  
 Pardis Sabeti <pardis@broadinstitute.org>;  
 Parvaiz koul <(b)(6)@gmail.com>;  
 Pasi Penttinen <Pasi.Penttinen@ecdc.europa.eu>;  
 Paul Oluniyi <(b)(6)@run.edu.ng>;  
 Paula Barbosa <p.barbosa@ifpma.org>;  
 Paula Vale <paula.vale@itamaraty.gov.br>;  
 Phil Febbo <pfebbo@illumina.com>;  
 Philip Dormitzer <Philip.Dormitzer@pfizer.com>;  
 Piet Maes <piet.maes@kuleuven.be>;  
 Pilailuk Okada <(b)(6)@gmail.com>;  
 Queen, Krista (CDC/DDID/NCIRD/DVD) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=9b822b7182844cacae2754011e25fd77-krista.quee  
 <wyz0@cdc.gov>;  
 Ranjit Sah <(b)(6)@gmail.com>;  
 Ren Wang <wangren@cngb.org>;  
 Richard Hatchett <richard.hatchett@cepi.net>;  
 Richard Njouom <njouom@pasteur-yaounde.org>;  
 Richard Wilder <richard.wilder@cepi.net>;  
 Robert Webster <robert.webster@stjude.org>;  
 Roman Wölfel <romanwoelfel@bundeswehr.org>;  
 Ron Fouchier <r.fouchier@erasmusmc.nl>;  
 Roychoudhury, Pavitra <proychou@fredhutch.org>;  
 Ryan Morhard <ryan.morhard@weforum.org>;  
 SCHWARTLANDER, Bernhard F. <schwartzlanderb@who.int>;  
 Sandra Chaves <Sandra.Chaves@sanofi.com>;  
 Shutoku Matsuyama <matuyama@nih.go.jp>;  
 Siswanto <(b)(6)@yahoo.com>;  
 Songer, Michael <michael.songer@whitecase.com>;  
 Sophie Druelles <Sophie.Druelles@sanofi.com>;  
 Soumya Swaminathan <swaminathans@who.int>;  
 Stephen Inglis <stephen.inglis@cantab.net>;  
 Lindstrom, Stephen (CDC/DDID/NCIRD/DVD) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=2fc1f99e9bac4bb3953ee0f74e5e72ac-Lindstrom,  
 <sql5@cdc.gov>;  
 Steven Platt <Steven.Platt@phe.gov.uk>;  
 Street, Celia <Celia.Street@health.gov.au>;  
 Sue Huang <sue.huang@esr.cri.nz>;  
 Sylvie van der WERF <sylvie.van-der-werf@pasteur.fr>;  
 Taft, Ryan <rtaft@illumina.com>;  
 Takato Odagiri <(b)(6)@gmail.com>;  
 Talat Mokhtari-Azad <(b)(6)@hotmail.com>;  
 OS Tam Theresa /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=5fc12c243da044958ad0a4e9a0008fba-Theresa.Tam  
 <Theresa.Tam@phac-aspc.gc.ca>;  
 Thomas Williams <(b)(6)@googlemail.com>;  
 Thorsten Wolff <wolff@rki.de>;  
 Timothy Booth <tim.booth@phac-aspc.gc.ca>;  
 Tong, Suxiang (Sue) (CDC/DDID/NCIRD/DVD) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=c6cd8d0a415d40e283cbffc652f3429a-Tong, Suxia  
 <sot1@cdc.gov>;  
 Torsten Seemann <(b)(6)@unimelb.edu.au>;  
 Trang Ung <(b)(6)@gmail.com>;  
 Tsan Yuk Lam <(b)(6)@gmail.com>;  
 Tze Minn MAK (MOH) <MAK\_Tze\_Minn@moh.gov.sg>;  
 Uehara, Anna (CDC/DDID/NCIRD/DVD) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=9f81cd70c0a2460e88dd640b3ceb9ffa-anna.uehara  
 <pln9@cdc.gov>;  
 Vasee Moorthy <moorthyv@who.int>;

	<p>Victor Corman &lt;Victor.corman@charite.de&gt;;  Vivi Setiawati &lt;(b)(6)@yahoo.com&gt;;  Wang, Haibin (CDC/DDID/NCIRD/DVD) (CTR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=662973c433bf458185799d66726121d0-haibin.wang &lt;ytm4@cdc.gov&gt;;  Wangchangtai Wang &lt;543531700@qq.com&gt;;  Wenjie Tan &lt;tanwj28@163.com&gt;;  Wenqing Zhang &lt;zhangw@who.int&gt;;  William Liu &lt;liujun@ivdc.chinacdc.cn&gt;;  Xie Jianfeng &lt;xjf417@163.com&gt;;  Yin Chen &lt;yinch@cdc.zj.cn&gt;;  Yuelong Shu &lt;(b)(6)@mail.sysu.edu.cn&gt;;  Zhengli Shi &lt;zshi@wh.iov.cn&gt;;  amalea dulcene Nicolasora &lt;(b)(6)@gmail.com&gt;;  amrit &lt;amrit.boese@canada.ca&gt;;  andrea &lt;andrea.nwosu@phac-aspc.gc.ca&gt;;  clair &lt;claire.sevenhuysen@canada.ca&gt;;  kirste &lt;kirsten.jacobsen@phac-aspc.gc.ca&gt;;  &lt;(b)(6)@outlook.com&gt;;  mire &lt;mireillelouise.desroches@canada.ca&gt;;  natha &lt;nathalie.bastien@phac-aspc.gc.ca&gt;;  robert &lt;robert.vendramelli@canada.ca&gt;;  shirato &lt;shirato@nih.go.jp&gt;;  suresh &lt;Suresh.Khatkar@canada.ca&gt;;  &lt;vincent.enouf@pasteur.fr&gt;;  関塚 剛史 &lt;sekizuka@nih.go.jp&gt;</p>
<b>Subject:</b>	GISAID hCoV-19 Analysis Update 2020-03-06 1600UTC
<b>Date:</b>	2020/03/06 15:09:59
<b>Priority:</b>	Normal
<b>Type:</b>	Note

Dear All

A recent paper suggests the outbreak is caused by two viruses with different aggressiveness. We like to point out that this analysis did not describe any new viruses. It analyzed virus genomes that are constantly being shared with the global scientific community via the GISAID platform, thanks to the great efforts from many labs initially in China and now also around the world. Viruses do keep changing naturally and form groups of genetically related viruses depending where and when they circulate.

The difference between these groups is minimal and rarely linked to changes in severity for which there is no hard evidence presented in that paper. The differences between the virus genetic groups in the case of this virus can be likened with comparing two cars of identical type and color just with a different license plate. That license plate helps you finding out where the car was registered but not how fast it can go. A lot more data is needed for the latter.

Assigning viruses to these genetic groups can be useful in determining patterns of transmission and global circulation as well as effects of human intervention. In this case, the analysis shows indeed decline of the variant dominant in Wuhan and Hubei Province which could be explained by the good effort of human intervention by the Chinese government among other factors. This has shown that the virus can be brought down. More data will be needed to fill gaps in the early history of this virus.

The recent paper in question, used 103 virus genomes while today there are far more known virus genomes on GISAID and that number is growing daily. Through that, we are seeing several more versions or "license plates" than just the two discussed in the paper, all within the expected natural variation behavior of a virus like this. In order to better describe this and facilitate discussion on clades we have added clade names based on marker mutations accordingly and also show detailed trees of major subclades.

Some observations:

- S clade: new USA-WA sequences cluster together (indicative of local transmission)
- V clade: Second Brazilian case has link to Switzerland rather than Milan
- F clade: new Japan cruise ship and NZ traveler (ex Iran)
- G clade: Northern Italy and central Europe

Our colleagues in Nigeria have just shared via GISAID a full genome of the newly emerging coronavirus, making it the first dataset from the African continent. It is not reflected in today's Analysis Update. Finally, after careful consideration of perspectives shared by our research community and a significant number of WHO Member States, GISAID decided to refer to the virus causing COVID-19 as hCoV-19.

We invite you to share with your colleagues

Peter

Peter Bogner, President  
**Freunde von GISAID e.V.**  
*Real-Time Communication in Disease Prevention*  
*a Public-Private-Partnership with the Federal Republic of Germany*  
 Lipowskystraße 10 | 81373 Munich | Germany  
 District Court Munich Reg: VR204844  
GISAID, from Vision to Reality

This transmission is intended for the addressee(s) shown above. It contains information that is privileged, confidential or otherwise protected from disclosure. Any review, dissemination or use of this transmission or its contents by persons other than the intended addressee(s) is strictly prohibited. Should you have received this transmission in error, kindly notify us immediately and e-mail to us the original at the sender's address above, by replying to this message and including the text of the transmission received.

<b>Sender:</b>	Peter Bogner <peter@gisaid.org>
<b>Recipient:</b>	'Makoto Takeda' <mtakeda@nih.go.jp>; 'n-nao' <n-nao@niid.go.jp>; (b)(6) <(b)(6)@stu.xmu.edu.cn>; Ab Osterhaus <albert.osterhaus@tiho-hannover.de>; Acep Somantri <(b)(6)@gmail.com>; Aeron Hurt <aeron.hurt@roche.com>; Agus Purwadianto <(b)(6)@gmail.com>; Alfonso Javier Rodriguez-Morales <(b)(6)@gmail.com>; AliReza Eshaghi <alireza.eshaghi@oahpp.ca>; Amadou Alpha SALL <Amadou.SALL@pasteur.sn>; Ana Maria Henao Restrepo <henaorestrepa@who.int>; Andrea Tyler <(b)(6)@gmail.com>; Andrey B. Komissarov <(b)(6)@gmail.com>; Anna Majer <anna.majer@canada.ca>; Anne Kelso <anne.kelso@nhmrc.gov.au>; Bancej, Christina (PHAC/ASPC) <christina.bancej@canada.ca>;

Barbara Muehleman <bm446@cam.ac.uk>;  
 Ben Turner <ben.turner@qiagen.com>;  
 Beverly Taylor <beverly.taylor@seqirus.com>;  
 Biere, Barbara <BiereB@rki.de>;  
 Bill Steiger <wsteiger@usaid.gov>;  
 Bill Warren <William.Warren@sanofi.com>;  
 Bimalesh Kumar Jha <(b)(6)@yahoo.com>;  
 Braun Nils <Nils.Braun@sgdsn.gouv.fr>;  
 Brian Rosen <brosen@novavax.com>;  
 Bruce Gellin <bruce.gellin@sabin.org>;  
 Bruno Lina <bruno.lina@chu-lyon.fr>;  
 Caly, Leon <Leon.Caly@vidrl.org.au>;  
 Capobianchi Maria Rosaria <maria.capobianchi@inmi.it>;  
 Catton, Mike <Mike.Catton@vidrl.org.au>;  
 Cedric Mahe <Cedric.Mahe@sanofi.com>;  
 Chen Zhu <zchen@stn.sh.cn>;  
 Chris Baggoley <(b)(6)@outlook.com>;  
 Chris Hunter <chris@gigasciencejournal.com>;  
 Christian Drosten <christian.drosten@charite.de>;  
 Clotilde Seblain <Clotilde.ElGuercheSeblain@sanofi.com>;  
 Cornelius Schmaltz <Cornelius.SCHMALTZ@ec.europa.eu>;  
 Cuauhtémoc Mancha Moctezuma <(b)(6)@gmail.com>;  
 Daniel Chu <dkwchu@hku.hk>;  
 Jernigan, Daniel B. (CDC/DDID/NCIRD/ID) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=ea51e17a084644918dbec2d9b4db2a0f-Jernigan, D  
 <dbj0@cdc.gov>;  
 David Loew <david.loew@sanofi.com>;  
 David Warrilow <David.Warrilow@health.qld.gov.au>;  
 Dawn O'Connell <dawn.oconnell@cepi.net>;  
 Dayan Wang <dayanwang@cnic.org.cn>;  
 De Ambrogi, Marco (ELS-LOW) <marco.deambrogi@lancet.com>;  
 Dee Ann Bagwell <dbagwell@ph.lacounty.gov>;  
 Dennis Carroll <(b)(6)@gmail.com>;  
 Dominic Tsang <nctsang@dh.gov.hk>;  
 Dueger, Erica /FR <Erica.Dueger@sanofi.com>;  
 Duncan MacCannell <dmaccannell@cdc.gov>;  
 Dylan Liu Di <liud@wh.lov.cn>;  
 Eddy Rubin <(b)(6)@gmail.com>;  
 Elisabeth Neumeier <elisabeth.r.neumeier@gsk.com>;  
 Elizabeth Ferdinand <(b)(6)@hotmail.com>;  
 Ernesto Ramirez <josee.ramirez@salud.gob.mx>;  
 GRUNER, WILLIAM E CTR USAF AFMC USAFSAM/PHE <william.gruner.1.ctr@us.af.mil>;  
 Gannon Mak <so\_phls10@dh.gov.hk>;  
 Gary Grohmann <(b)(6)@icloud.com>;  
 George Fu Gao <gaof@im.ac.cn>;  
 George Taiaroa <(b)(6)@unimelb.edu.au>;  
 Giuseppe Ippolito <giuseppe.ippolito@inmi.it>;  
 Lobel, Hannah (STATE.GOV) /o=ExchangeLabs/ou=Exchange Administrative Group  
 (FYDIBOHF23SPDLT)/cn=Recipients/cn=229554db163e4ce4ad12d5cbd6a3ace1-Hannah.Lobe  
 <lobelhj@state.gov>;  
 Haogao Gu <hggu@connect.hku.hk>;  
 Heidi Meyer <Heidi.meyer@pei.de>;  
 Hideki Hasegawa <hasegawa@nih.go.jp>;  
 Huanming Henry Yang <(b)(6)@gmail.com>;  
 Huanming Henry Yang <yanghuanming@genomics.cn>;  
 Huma Qureshi <(b)(6)@gmail.com>;  
 Ines Steffens <Ines.Steffens@ecdc.europa.eu>;  
 Irma López-Martínez <Irma.lopez@salud.gob.mx>;  
 Jade Cogdale <Jade.Cogdale@phe.gov.uk>;  
 Jane Aceng <acengj@parliament.go.ug>;  
 Jane Halton <(b)(6)@gmail.com>;  
 Janneth Mghamba <(b)(6)@yahoo.com>;  
 Jason Gale <j.gale@bloomberg.net>;  
 Jasper Chan <jfwchan@hku.hk>;  
 Javier Díez-Domingo <(b)(6)@gmail.com>;  
 Jennifer Seedorff <SeedorffJE@state.gov>;

Jeong-Min Kim <jmkim97@korea.kr>;  
 Ji-Rong Yang <gggyang@cdc.gov.tw>;  
 Jing Lu (b)(6)@gmail.com>;  
 Jing Wang <wangjing@psych.ac.cn>;  
 Jing Wang <jing.wang@esr.cri.nz>;  
 Joep de Ligt <joep.deligt@esr.cri.nz>;  
 John McCauley <John.McCauley@crick.ac.uk>;  
 John Watson <john.watson@phe.gov.uk>;  
 John-Sebastian Eden <js.eden@sydney.edu.au>;  
 Joseph Scovitch <ScovitchJR@state.gov>;  
 José Alberto Diaz <adiaz@unam.mx>;  
 Julia Tree <Julia.Tree@phe.gov.uk>;  
 Julian Druce <julian.druce@mh.org.au>;  
 Kanta Subbarao <kanta.subbarao@influenzacentre.org>;  
 Karin Knufmann-Happe (b)(6)@icloud.com>;  
 Kathrin Jansen <Kathrin.Jansen@pfizer.com>;  
 Kedar Baral (b)(6)@pahs.edu.np>;  
 Keiji Fukuda <kfukuda@hku.hk>;  
 Keith Hamilton <k.hamilton@oie.int>;  
 Kerri-Ann Jones (b)(6)@verizon.net>;  
 Kun Shi <shik@most.cn>;  
 Kerr, Lawrence (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8ce9de2e7497472bb758f8fd6e262c86-Kerr, Lawre <Lawrence.Kerr@hhs.gov>;  
 Laurie Garrett <laurie@lauriegarrett.com>;  
 Leo Poon <llmpoon@hku.hk>;  
 Liebenberg, Volker <vliebenberg@illumina.com>;  
 Lili Ren <renliliipb@163.com>;  
 Lokman Hakim <LokmanHakim@imu.edu.my>;  
 Lothar Wieler <president-RKI-Office@rki.de>;  
 Luo Ting <307358774@qq.com>;  
 Lyon-chanteloup Aude <Aude.Lyon-chanteloup@sgdsn.gouv.fr>;  
 Mahmudur Rahman <mrahman57@hotmail.com>;  
 Makarim Wibisono (b)(6)@hotmail.com>;  
 Malik Peiris <malik@hkucc.hku.hk>;  
 Marc Eloit <marc.eloit@pasteur.fr>;  
 Maria Van Kerkhove <vankerkhovem@who.int>;  
 Maria Zambon <maria.zambon@phe.gov.uk>;  
 Mariana Viegas (b)(6)@gmail.com>;  
 Marie-Paule Kieny (b)(6)@gmail.com>;  
 Mark Renton (b)(6)@gmail.com>;  
 Mark Schultz <mark.schultz@unimelb.edu.au>;  
 Masato Tashiro (b)(6)@gmail.com>;  
 Mia Brytting <mia.brytting@folkhalsomyndigheten.se>;  
 Michael J. Ryan <ryanm@who.int>;  
 Monica Galiano <monica.galiano@crick.ac.uk>;  
 Monique Eloit <m.eloit@oie.int>;  
 Naomi Komadina <naomi.komadina@influenzacentre.org>;  
 Nísia Trindade Lima <nisia.lima@fiocruz.br>;  
 Norris, Sarah <Sarah.Norris@health.gov.au>;  
 Oberholzer, Michael <moberholzer@illumina.com>;  
 Olav Hungnes <olhu@fhi.no>;  
 Oliver Drechsel <drechsel@rki.de>;  
 Othmar Engelhardt <Othmar.Engelhardt@nibsc.hpa.org.uk>;  
 Owen, Rhonda <Rhonda.Owen@health.gov.au>;  
 PEISLEY, Hope <Hope.Peisley@health.gov.au>;  
 PREZIOSI, Marie-pierre <preziosim@who.int>;  
 Pardis Sabeti <pardis@broadinstitute.org>;  
 Parvaiz koul (b)(6)@gmail.com>;  
 Pasi Penttinen <Pasi.Penttinen@ecdc.europa.eu>;  
 Paul Oluniyi (b)(6)@run.edu.ng>;  
 Paula Barbosa <p.barbosa@ifpma.org>;  
 Paula Vale <paula.vale@itamaraty.gov.br>;  
 Phil Febbo <pfebbo@illumina.com>;  
 Philip Dormitzer <Philip.Dormitzer@pfizer.com>;  
 Piet Maes <piet.maes@kuleuven.be>;



Pilailuk Okada (b)(6)@gmail.com>;  
 Queen, Krista (CDC/DDID/NCIRD/DVD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9b822b7182844caca2754011e25fd77-krista.queen<wyz0@cdc.gov>;  
 Ranjit Sah (b)(6)@gmail.com>;  
 Ren Wang <wangren@cngb.org>;  
 Richard Hatchett <richard.hatchett@cepi.net>;  
 Richard Njouom <njouom@pasteur-yaounde.org>;  
 Richard Wilder <richard.wilder@cepi.net>;  
 Robert Webster <robert.webster@stjude.org>;  
 Roman Wölfel <romanwoelfel@bundeswehr.org>;  
 Ron Fouchier <r.fouchier@erasmusmc.nl>;  
 Roychoudhury, Pavitra <proychou@fredhutch.org>;  
 Ryan Morhard <ryan.morhard@weforum.org>;  
 SCHWARTLANDER, Bernhard F. <schwartzlanderb@who.int>;  
 Sandra Chaves <Sandra.Chaves@sanofi.com>;  
 Shutoku Matsuyama <matuyama@nih.go.jp>;  
 Siswanto (b)(6)@yahoo.com>;  
 Songer, Michael <michael.songer@whitecase.com>;  
 Sophie Druelles <Sophie.Druelles@sanofi.com>;  
 Soumya Swaminathan <swaminathans@who.int>;  
 Stephen Inglis <stephen.inglis@cantab.net>;  
 Lindstrom, Stephen (CDC/DDID/NCIRD/DVD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2fc1f99e9bac4bb3953ee0f74e5e72ac-Lindstrom,<sql5@cdc.gov>;  
 Steven Platt <Steven.Platt@phe.gov.uk>;  
 Street, Celia <Celia.Street@health.gov.au>;  
 Sue Huang <sue.huang@esr.cri.nz>;  
 Sylvie van der WERF <sylvie.van-der-werf@pasteur.fr>;  
 Taft, Ryan <rtaft@illumina.com>;  
 Takato Odagiri (b)(6)@gmail.com>;  
 Talat Mokhtari-Azad (b)(6)@hotmail.com>;  
 OS Tam Theresa /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5fc12c243da044958ad0a4e9a0008fba-Theresa.Tam<Theresa.Tam@phac-aspc.gc.ca>;  
 Thomas Williams (b)(6)@googlemail.com>;  
 Thorsten Wolff <wolfft@rki.de>;  
 Timothy Booth <tim.booth@phac-aspc.gc.ca>;  
 Tong, Suxiang (Sue) (CDC/DDID/NCIRD/DVD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c6cd8d0a15d40e283cbffc652f3429a-Tong, Suxia<sot1@cdc.gov>;  
 Torsten Seemann (b)(6)@unimelb.edu.au>;  
 Trang Ung (b)(6)@gmail.com>;  
 Tsan Yuk Lam (b)(6)@gmail.com>;  
 Tze Minn MAK (MOH) <MAK\_Tze\_Minn@moh.gov.sg>;  
 Uehara, Anna (CDC/DDID/NCIRD/DVD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9f81cd70c0a2460e88dd640b3ceb9ffa-anna.uehara<pln9@cdc.gov>;  
 Vasee Moorthy <moorthyv@who.int>;  
 Victor Corman <Victor.corman@charite.de>;  
 Vivi Setiawati (b)(6)@yahoo.com>;  
 Wang, Haibin (CDC/DDID/NCIRD/DVD) (CTR) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=662973c433bf458185799d66726121d0-haibin.wang<ytm4@cdc.gov>;  
 Wangchangtai Wang <543531700@qq.com>;  
 Wenjie Tan <tanwj28@163.com>;  
 Wenqing Zhang <zhangw@who.int>;  
 William Liu <liujun@ivdc.chinacdc.cn>;  
 Xie Jianfeng <xjf417@163.com>;  
 Yin Chen <yinch@cdc.zj.cn>;  
 Yuelong Shu (b)(6)@mail.sysu.edu.cn>;  
 Zhengli Shi <zlishi@wh.iov.cn>;  
 amalea dulcene Nicolasora (b)(6)@gmail.com>;  
 amrit <amrit.boese@canada.ca>;  
 andrea <andrea.nwosu@phac-aspc.gc.ca>;  
 clair <claire.sevenhuysen@canada.ca>;

kirste <kirsten.jacobsen@phac-aspc.gc.ca>;  
(b)(6)@outlook.com>;  
mire <mireillelouise.desroches@canada.ca>;  
natha <nathalie.bastien@phac-aspc.gc.ca>;  
robert <robert.vendramelli@canada.ca>;  
shirato <shirato@nih.go.jp>;  
suresh <Suresh.Khatkar@canada.ca>;  
<vincent.enouf@pasteur.fr>;  
関塚 剛史 <sekizuka@nih.go.jp>

**Sent Date:** 2020/03/06 14:20:40

**Delivered Date:** 2020/03/06 15:09:59

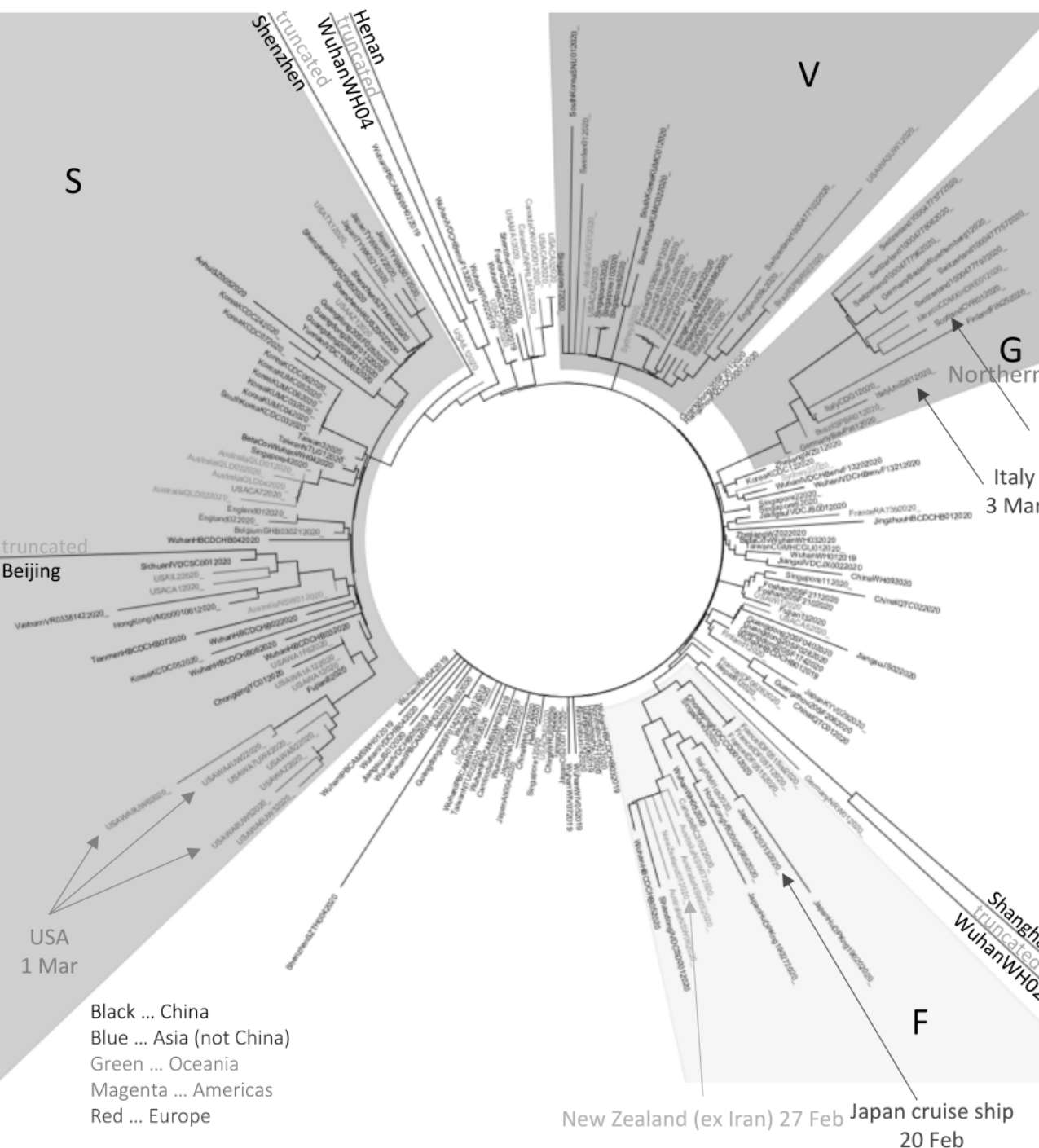
# Latest update

2020-03-06 1600UTC

by BII, A\*STAR Singapore



# Full genome tree of all outbreak sequences 2020-03-06 1600UTC



- 202 full genomes shared
- New New Zealand – 1
- New Japan (cruise ship) - 1
- New Scotland -1
- New Italy – 1
- New USA – 3
- Larger clades were named based on marker mutations:  
S ... ORF8-L84S  
G ... S-D614G  
V ... NS3-G251V  
F ... NSP6-L37F

*Some sequences (e.g. Beijing, Shanghai, Henan,...) have long branches due to lower quality but relative tree position reliable*

Neighbor-Joining tree with Maximum Composite Likelihood distance. Branch length in the units of the number of base substitutions per site. Uniform rates. Pairwise deletion. 500 bootstrap. MEGA X and FigTree.

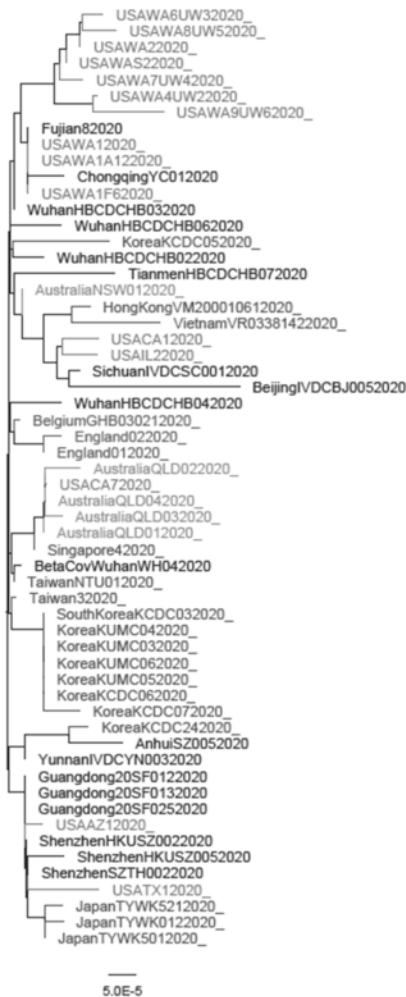
We gratefully acknowledge the Authors from Originating and Submitting laboratories of sequence data on which the analysis is based.



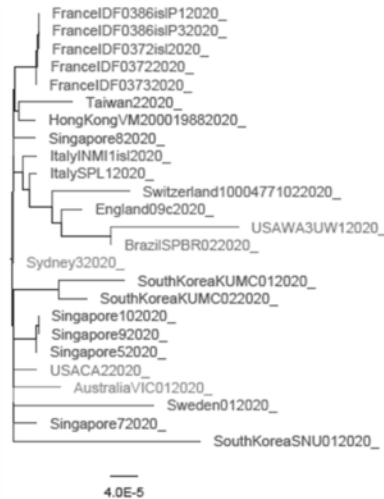
by BII/GIS, A\*STAR Singapore

# Full genome trees of major subclades 2020-03-06 1600UTC

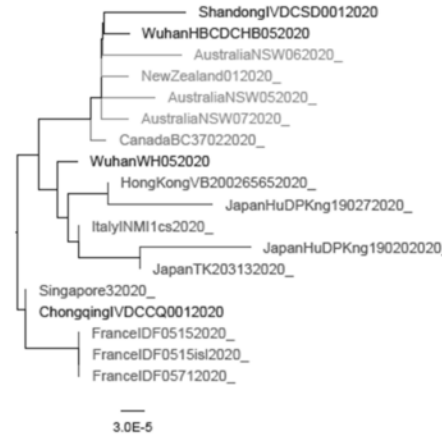
## S clade (+3)



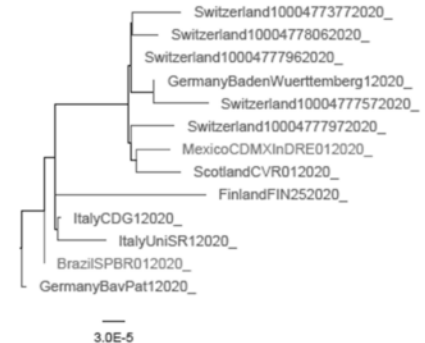
## V clade



## F clade (+2)



## G clade (+2)



S clade: new USA-WA sequences cluster together (local transmission)

V clade: Second Brazilian case has link to Switzerland rather than Milan

F clade: new Japan cruise ship and NZ traveller (ex Iran)

G clade: Northern Italy and central Europe

We gratefully acknowledge the Authors from Originating and Submitting laboratories of sequence data on which the analysis is based.

Black ... China  
Blue ... Asia (not China)  
Green ... Oceania  
Magenta ... Americas  
Red ... Europe



by BII/GIS, A\*STAR Singapore

# Full genome nucleotide alignments of all outbreak sequences

## 2020-03-04 UTC (202 full genomes)

Primer set names	Genomes aligned with base change	Primer set names	Genomes aligned with base change
Egene_Sarbeco (Amplicon length – 113bp) <b>Charité</b>	South Korea_SNU01 (EPI_ISL_411929) – T>A Jingzhou_HBCDC_HB_01 (EPI_ISL_412459) – C>T	HKU1_N (Amplicon length – 110bp) <b>HKU</b>	Chongqing_YC01 (EPI_ISL_408478) – C>T
RdRPGene_SARSr (Amplicon length – 100bp) <b>Charité</b> <a href="https://www.who.int/docs/default-source/coronaviruse/protocol-v2-1.pdf">https://www.who.int/docs/default-source/coronaviruse/protocol-v2-1.pdf</a>	<b>None</b> (accepting flexibility on published ambiguous S position in reverse primer)	HKU1_ORF1b_nsp14 (Amplicon length – 132bp) <b>HKU</b> <a href="https://www.who.int/docs/default-source/coronaviruse/peiris-protocol-16-1-20.pdf">https://www.who.int/docs/default-source/coronaviruse/peiris-protocol-16-1-20.pdf</a>	Jingzhou_HBCDC_HB_01 (EPI_ISL_412459) – C>T
ChinaCDC_ORF1ab (Amplicon length – 119bp) <b>ChinaCDC</b>	Wuhan_WH02 (EPI_ISL_406799) – G>C	N1_USA_CDC (Amplicon length – 72bp) <b>USA_CDC</b>	Foshan_20SF207 (EPI_ISL_406534) – C>T Tianmen_HBCDC_HB_07 (EPI_ISL_412983) – C>T
ChinaCDC_N (Amplicon length – 99bp) <b>ChinaCDC</b> <a href="http://ivdc.chinacdc.cn/kviz/202001/t20200121_211337.html">http://ivdc.chinacdc.cn/kviz/202001/t20200121_211337.html</a>	Wuhan_IVDC_HB_env54 (EPI_ISL_408512) – gapped Germany_Baden_Wuerttemberg (EPI_ISL_412912) – G>A, G>A, G>C Mexico_InDRE_01 (EPI_ISL_412972) – G>A, G>A, G>C Switzerland_7377 (EPI_ISL_413020) – G>A, G>A, G>C Switzerland_7757 (EPI_ISL_413021) – G>A, G>A, G>C Switzerland_7796 (EPI_ISL_413022) – G>A, G>A, G>C Switzerland_7797 (EPI_ISL_413023) – G>A, G>A, G>C Switzerland_7806 (EPI_ISL_413024) – G>A, G>A, G>C Germany_NRW01 (EPI_ISL_413488) – G>A, G>A, G>C	N2_USA_CDC (Amplicon length – 67bp) <b>USA_CDC</b>	Chongqing_YC01 (EPI_ISL_408478) – C>T
		N3_USA_CDC (Amplicon length – 72bp) <b>USA_CDC</b> <a href="https://www.who.int/docs/default-source/coronaviruse/uscdcr-rt-pcr-panel-primer-probes.pdf">https://www.who.int/docs/default-source/coronaviruse/uscdcr-rt-pcr-panel-primer-probes.pdf</a>	Shandong_IVDC_SD_001 (EPI_ISL_408482) – T>C Shenzen_SZTH_004 (EPI_ISL_406595) – C>T Canada_BC_37_0_2 (EPI_ISL_412965) – T>C Australia_NSW05 (EPI_ISL_412975) – T>C Wuhan_HBCDC_HB05_2020 (EPI_ISL_412981) – T>C Australia_NSW06 (EPI_ISL_413213) – T>C Australia_NSW07 (EPI_ISL_413214) – T>C NewZealand_01 (EPI_ISL_413490) – T>C

We gratefully acknowledge the Authors from  
Originating and Submitting laboratories of  
sequence data on which the analysis is based.

by BII/GIS, A\*STAR Singapore



# Receptor binding surveillance for current 202 full genome sequences

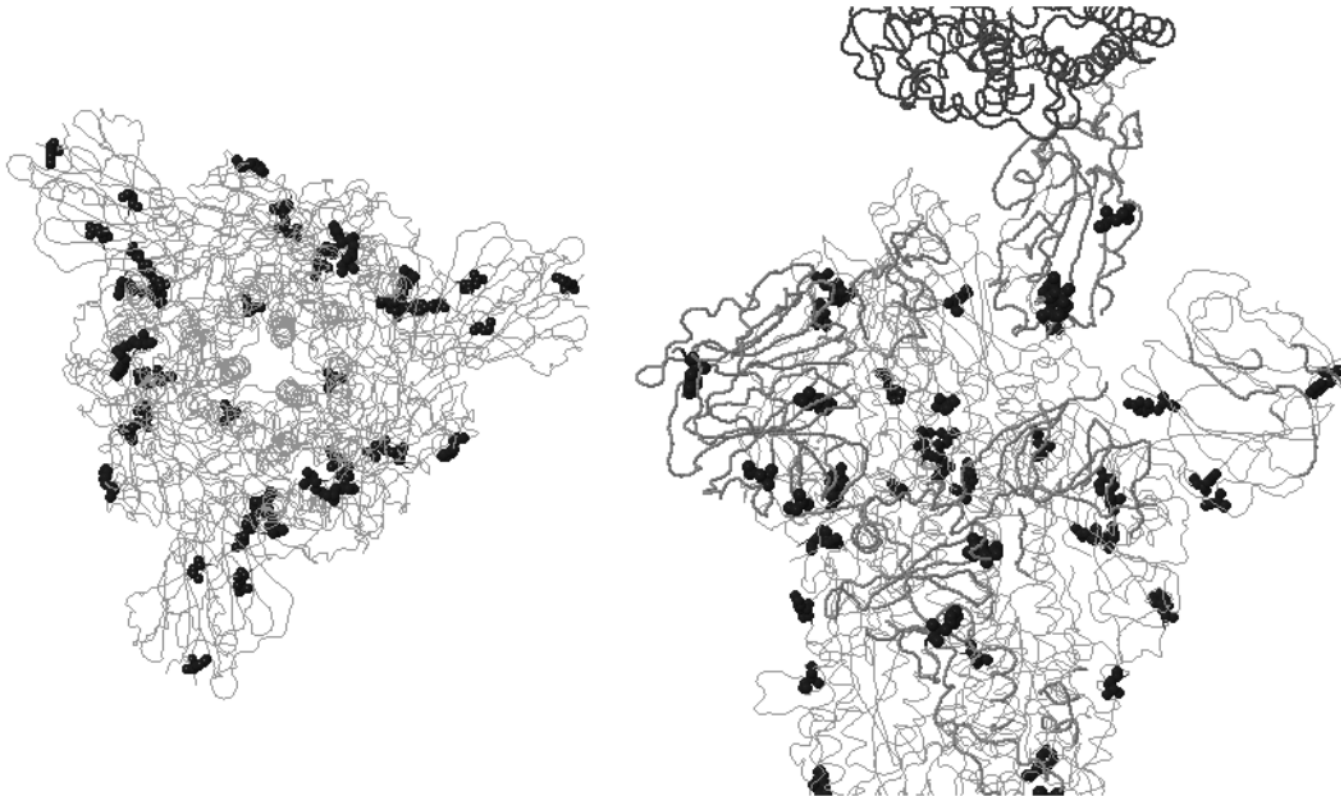
No mutation near the binding interface so far

Green ... ACE2 human host receptor

Gray ... CoV spike glycoprotein

Blue ... Spike glycoprotein variation

Red ... Spike glycoprotein variation near host receptor



We gratefully acknowledge the Authors from Originating and Submitting laboratories of sequence data on which the analysis is based.

Spike glycoprotein variation in structure  
(nearest residue if in loop region/termini)

F32I H49Y S247R(249) N354D D364Y V367F D614G V1129L  
E1262G(1258) P1143L S221W F797C L249S L752F V615L  
S939F K202N H655Y (USA\_WA8) S254F (Germany NRW-01)

Numbering relative to start codon 21563 in  
hCoV-19/Wuhan/WIV04/2019

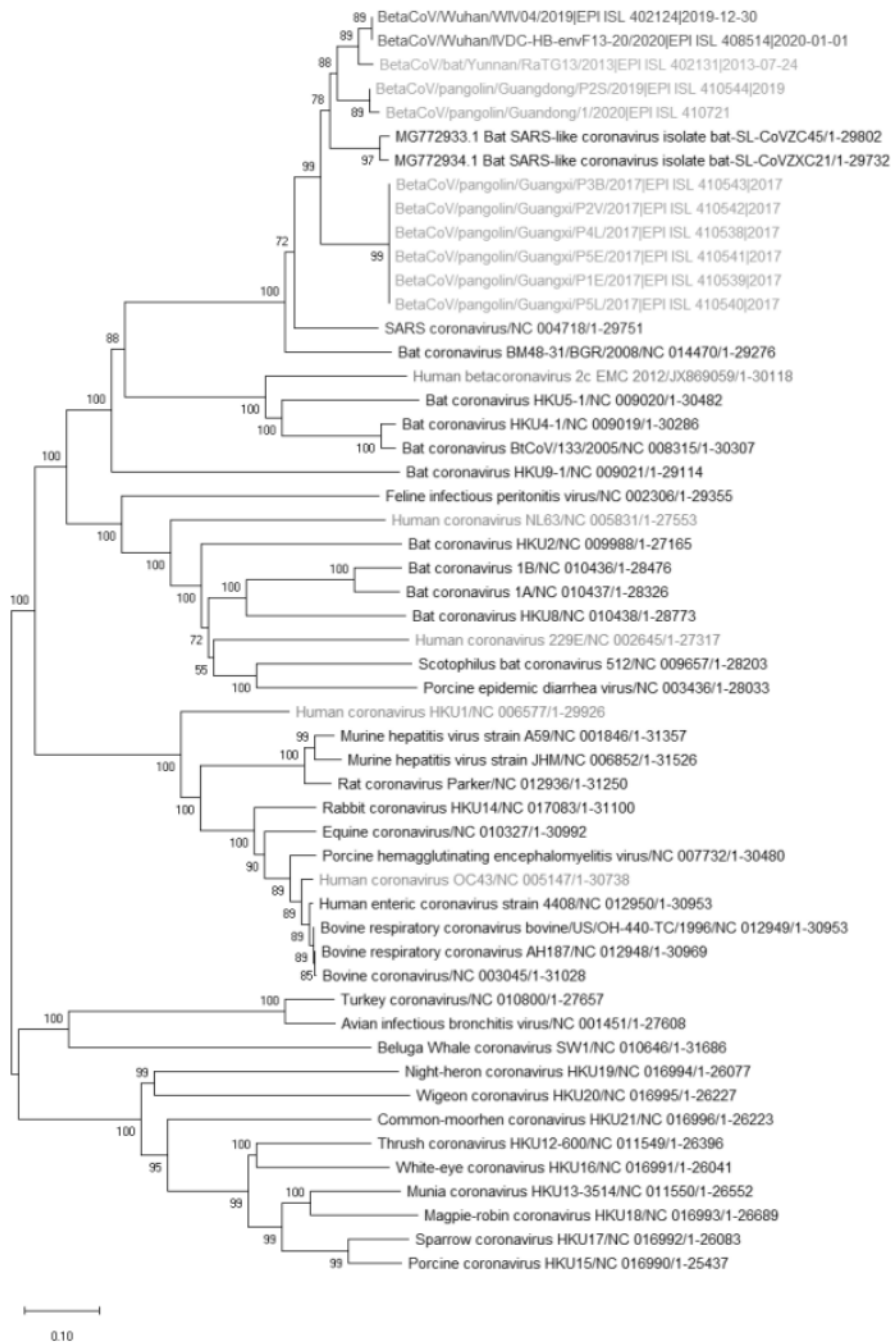
# Summary

First Characterization

by BII, A\*STAR Singapore







## Full genome tree of all CoV families

- Nearest bat precursor RaTG13
- Nearest pangolin precursors from Guangdong
- Several pangolin-derived sequences part of recent family of related viruses

Genome identity to hCoV-19:

- 96% RaTG13 (nearest bat precursor)
- 90% Guangdong1/P2S (nearest pangolin precursor)
- 88% ZC45/ZXC21 bat precursor
- 80% SARS

Orange ... bat RaTG13  
 Red ... hCoV-19 2019-2020  
 Cyan ... pangolin CoV  
 Blue ... SARS CoV  
 Purple ... MERS CoV  
 Green ... common cold CoV

We gratefully acknowledge  
 the Authors from Originating  
 and Submitting laboratories  
 of sequence data on which  
 the analysis is based.

Phylogenetic tree of Wuhan CoV full genome sequences in context of  
 representatives of all CoV families (whole genome Neighbor Joining,  
 Maximum Composite Likelihood, uniform rates, 500 bootstrap, MegaX)

by BII, A\*STAR Singapore



# Spike host receptor changes for nearest bat and nearest pangolin sequences

Strain 1	Strain 2	Spike overall identity	Interface mutations
Human Wuhan	Bat Yunnan	98%	13
Pangolin Guangdong	Bat Yunnan	90%	13
Pangolin Guangdong	Human Wuhan	91%	1



Select Query Sequence & Reference Sequence to display on 3D Structure Viewer:

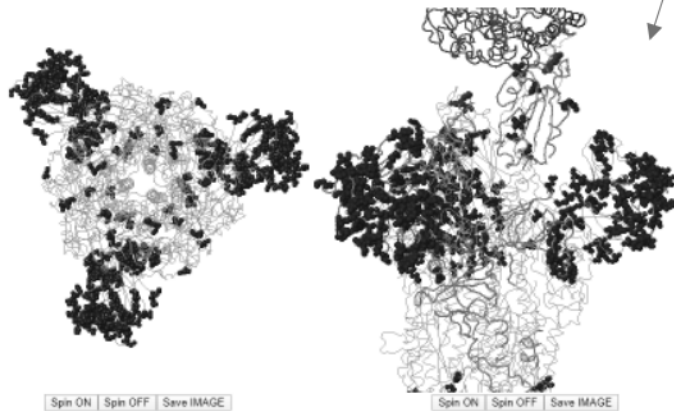
Query Sequence:  Reference Sequence:

% AA identity: 97.630%

# mutations: 38

List of variations displayed in structure (nearest residue if in loop/terminal region):  
 G22P L505 I707(T) P318Q D324E T346R T372A T403R K420N H448N H449L A443S C445V F446Y A455S K478T G482V T484C L486P Y488F Y652Q S694S Y659Q D661N H665Y N675H A684T (H448S/P458A/T474, E486S) S1121N

List of mutations not displayed in structure:  
 H224V(C-term)



Select Query Sequence & Reference Sequence to display on 3D Structure Viewer:

Query Sequence:  Reference Sequence:

% AA identity: 91.200%

# mutations: 101

List of variations displayed in structure (nearest residue if in loop/terminal region):  
 S12N T20G T22A Q23A L24I P25Q A27S Y28P F32S T33Q K41T V42I S46N V47T H49V S58L T51S D53G L54Y F59Y T63S F65Y H66Y B6L G72T(B) T76E(T) F75V P86D N87K V88I S84A I85V S12N K133T T144S V121I E132N N137Y F146Y Q142S V143Q S151T M153S E154T S158R R160A A162V N164A Q173K P174S L176M M177L L179I E180A Q183S N186L K187D N188T K196R I197V I207Y I215V L212V V213N Q214S Q215M Q216I Q217E L228I Q231A R237K Q238I A243T L244I Y245Q(Q48) T250M S255N S256N A260V G261F A323S Q271A L278M K278N T286A F306L D346T A372T I402V K417R Q456H H510N K529Q N555S R564S A585S S591A S708A T714I A1073S A1078T D1084C

List of mutations not displayed in structure:  
 M1(L(N-term)) V27(F(N-term)) L37(N-term) V5(L(N-term)) L71(H(N-term)) L87(N-term) P5A(N-term) N192S(C-term) V122(B)(C-term)

Select Query Sequence & Reference Sequence to display on 3D Structure Viewer:

Query Sequence:  Reference Sequence:

% AA identity: 98.307%

# mutations: 123

List of variations displayed in structure (nearest residue if in loop/terminal region):  
 S12N T20G T22A Q23A L24I P25Q A27S Y28P F32S T33Q K41T V42I S46N V47T H49V T51S D53G L54Y F59Y T63S F65Y H66Y B6L G72T(B) I76E(T) F75V P86D N87K V88I S84A I85V S12N K133T T144S V121I E132N N137Y F146Y Q142S V143Q S151T M153S E154T S158R R160A A162V N164A Q173K P174S L176M M177L L179I E180A Q183S N186L K187D N188T K196R I197V I207Y I215V L212V V213N Q214S Q215M Q216I Q217E L228I Q231A R237K Q238I A243T L244I Y245Q(Q48) T250M S255N S256N A260V G261F A323S Q271A L278M K278N T286A F306L D346T A372T I402V K417R Q456H H456I H459V F460Y A493S K478T G482V T484C L486P Y488F Y493Q I494S Y496R D510N I503Y K529Q N555S A585S S591A S708A T714I A1073S A1078T D1084C

List of mutations not displayed in structure:  
 M1(L(N-term)) V27(F(N-term)) L37(N-term) V5(L(N-term)) L71(H(N-term)) L87(N-term) P5A(N-term)

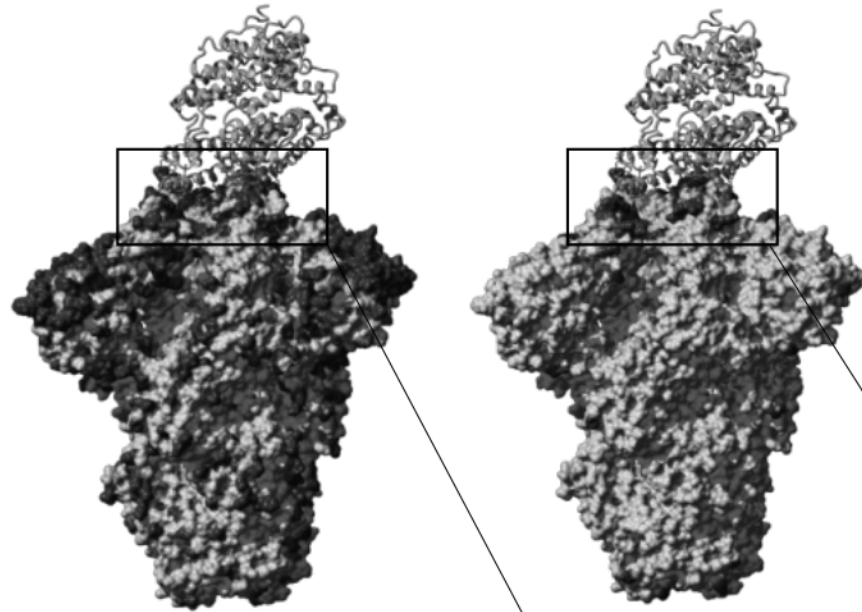
by BII, A\*STAR Singapore



# Host receptor binding site differences between SARS, bat precursor (RaTG13) and human outbreak hCoV-19

## Additional Analysis for RaTG13 sequence from Zhengli Shi's lab

CAS Key Laboratory of Special Pathogens,  
Wuhan Institute of Virology



Cyan ... ACE2 human host receptor

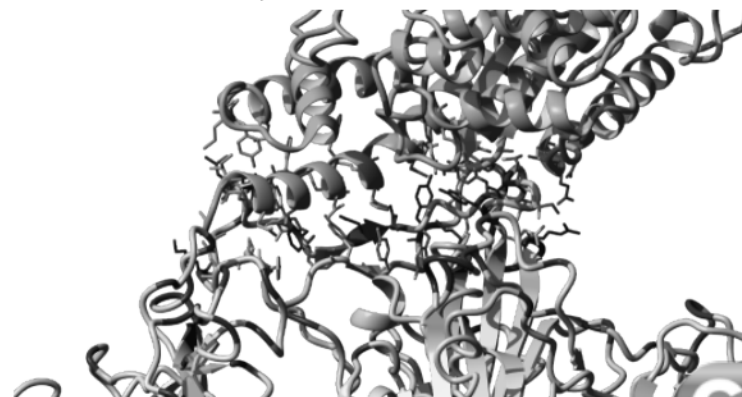
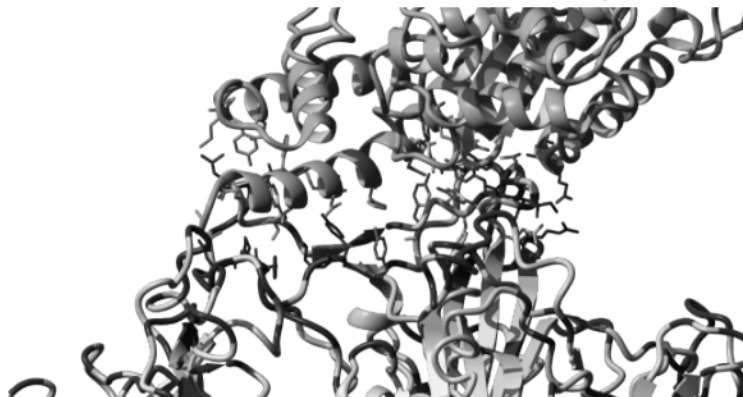
Gray ... CoV spike glycoprotein

Red ... mutations between either SARS (left side) or bat precursor RaTG13 (right side) vs human outbreak WIV04 CoV

- Surface proteins are 76% and 98% identical, respectively
- Antigenic surface highly divergent compared to SARS
- Bat precursor differences in receptor binding interface indicative of changes that allowed host switch

SARS vs hCoV-19

RaTG13 vs hCoV-19



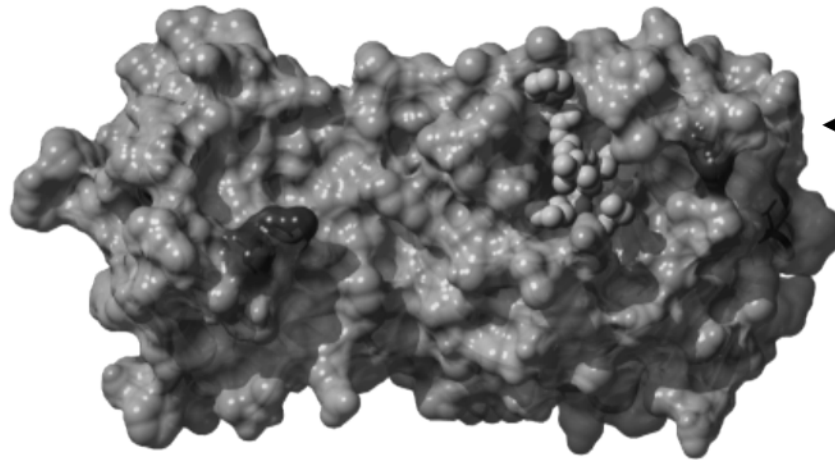
We gratefully acknowledge the Authors from Originating and Submitting laboratories of sequence data on which the analysis is based.

by BII, A\*STAR Singapore



# Potential drug targets highly conserved between hCoV-19 and SARS

- Both, the main protease and polymerase which are potential drug targets are highly conserved between hCoV-19 and SARS with 96% and 97% overall identity, respectively
- Inhibitors developed against the SARS-CoV main protease or polymerase have good potential to bind similarly to hCoV-19



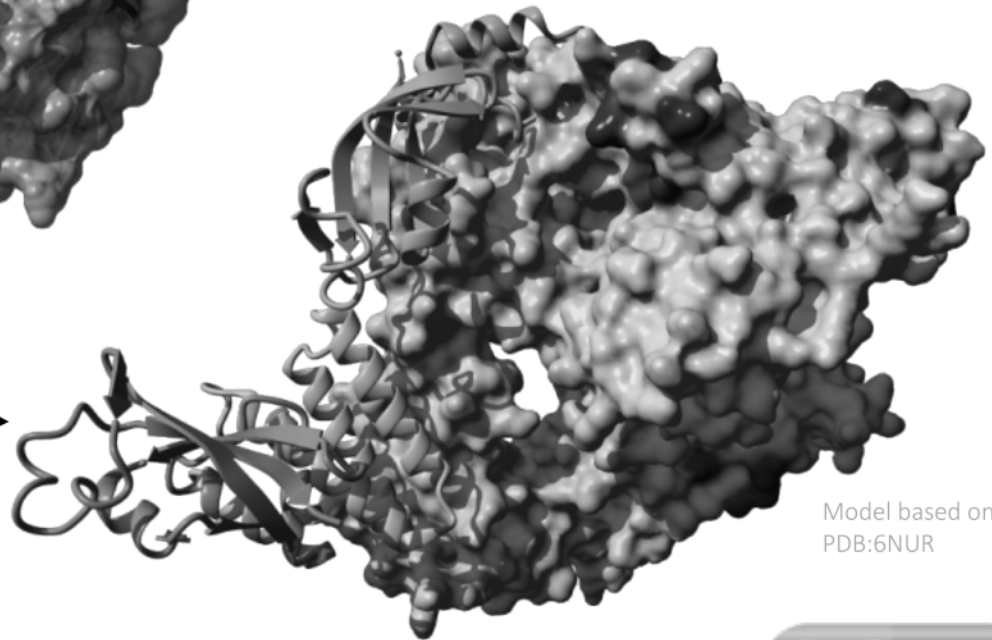
Model based on PDB:3TNT

## Main protease hCoV-19 vs SARS

← Red ... consensus differences (surface mutations)  
Yellow ... substrate analogue/inhibitor

## Polymerase hCoV-19 vs SARS

nsp12 (gray=identical, red=mutated) →  
complex with nsp7 (yellow) and nsp8 (cyan, green)



Model based on PDB:6NUR

We gratefully acknowledge the Authors from Originating and Submitting laboratories of sequence data on which the analysis is based.

by BII, A\*STAR Singapore



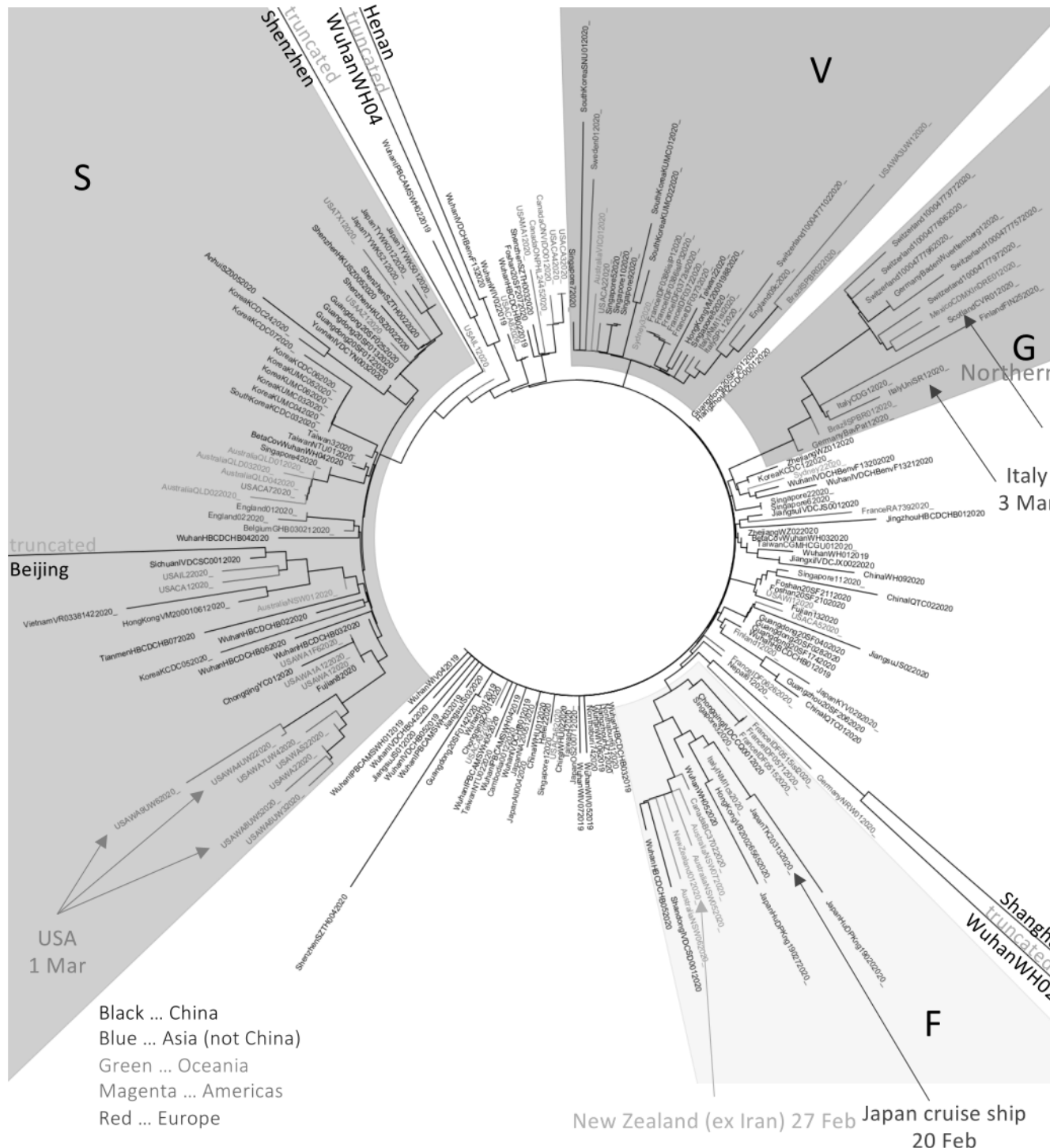
# Latest update

2020-03-06 1600UTC

by BII, A\*STAR Singapore



# Full genome tree of all outbreak sequences 2020-03-06 1600UTC



- 202 full genomes shared
- New New Zealand – 1
- New Japan (cruise ship) - 1
- New Scotland -1
- New Italy – 1
- New USA – 3
- Larger clades were named based on marker mutations:  
S ... ORF8-L84S  
G ... S-D614G  
V ... NS3-G251V  
F ... NSP6-L37F

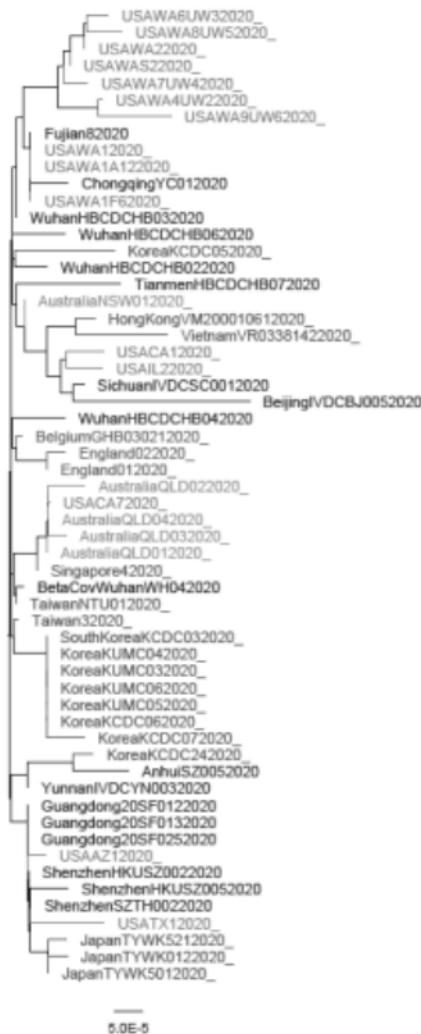
*Some sequences (e.g. Beijing, Shanghai, Henan,...) have long branches due to lower quality but relative tree position reliable*

Neighbor-Joining tree with Maximum Composite Likelihood distance. Branch length in the units of the number of base substitutions per site. Uniform rates. Pairwise deletion. 500 bootstrap. MEGA X and FigTree.

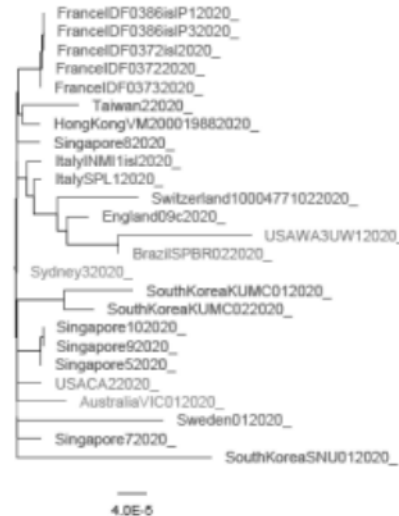
We gratefully acknowledge the Authors from Originating and Submitting laboratories of sequence data on which the analysis is based.

# Full genome trees of major subclades 2020-03-06 1600UTC

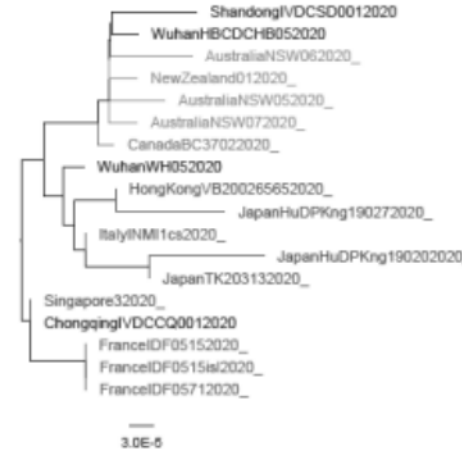
S clade (+3)



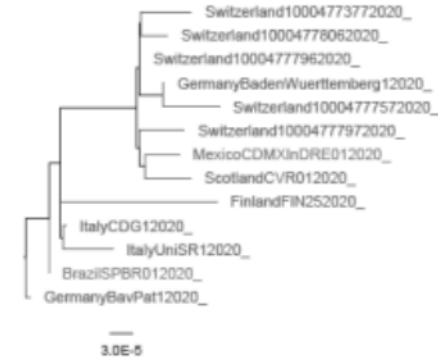
V clade



F clade (+2)



G clade (+2)



S clade: new USA-WA sequences cluster together (local transmission)

V clade: Second Brazilian case has link to Switzerland rather than Milan

F clade: new Japan cruise ship and NZ traveller (ex Iran)

G clade: Northern Italy and central Europe

We gratefully acknowledge the Authors from Originating and Submitting laboratories of sequence data on which the analysis is based.

Black ... China  
Blue ... Asia (not China)  
Green ... Oceania  
Magenta ... Americas  
Red ... Europe

# Full genome nucleotide alignments of all outbreak sequences

## 2020-03-04 UTC (202 full genomes)

Primer set names	Genomes aligned with base change	Primer set names	Genomes aligned with base change
Egene_Sarbeco (Amplicon length – 113bp) <b>Charité</b>	South Korea_SNU01 (EPI_ISL_411929) – T>A Jingzhou_HBCDC_HB_01 (EPI_ISL_412459) – C>T	HKU1_N (Amplicon length – 110bp) <b>HKU</b>	Chongqing_YC01 (EPI_ISL_408478) – C>T
RdRPGene_SARsR (Amplicon length – 100bp) <b>Charité</b> <a href="https://www.who.int/docs/default-source/coronaviruse/protocol-v2-1.pdf">https://www.who.int/docs/default-source/coronaviruse/protocol-v2-1.pdf</a>	<b>None</b> (accepting flexibility on published ambiguous S position in reverse primer)	HKU1_ORF1b_nsp14 (Amplicon length – 132bp) <b>HKU</b> <a href="https://www.who.int/docs/default-source/coronaviruse/peiris-protocol-16-1-20.pdf">https://www.who.int/docs/default-source/coronaviruse/peiris-protocol-16-1-20.pdf</a>	Jingzhou_HBCDC_HB_01 (EPI_ISL_412459) – C>T
ChinaCDC_ORF1ab (Amplicon length – 119bp) <b>ChinaCDC</b>	Wuhan_WH02 (EPI_ISL_406799) – G>C	N1_USA_CDC (Amplicon length – 72bp) <b>USA_CDC</b>	Foshan_20SF207 (EPI_ISL_406534) – C>T Tianmen_HBCDC_HB_07 (EPI_ISL_412983) – C>T
ChinaCDC_N (Amplicon length – 99bp) <b>ChinaCDC</b> <a href="http://ivdc.chinacdc.cn/kyjz/202001/t20200121_211337.html">http://ivdc.chinacdc.cn/kyjz/202001/t20200121_211337.html</a>	Wuhan_IVDC_HB_env54 (EPI_ISL_408512) – gapped Germany_Baden_Wuerttemberg (EPI_ISL_412912) – G>A, G>A, G>C Mexico_InDRE_01 (EPI_ISL_412972) – G>A, G>A, G>C Switzerland_7377 (EPI_ISL_413020) – G>A, G>A, G>C Switzerland_7757 (EPI_ISL_413021) – G>A, G>A, G>C Switzerland_7796 (EPI_ISL_413022) – G>A, G>A, G>C Switzerland_7797 (EPI_ISL_413023) – G>A, G>A, G>C Switzerland_7806 (EPI_ISL_413024) – G>A, G>A, G>C Germany_NRW01 (EPI_ISL_413488) – G>A, G>A, G>C	N2_USA_CDC (Amplicon length – 67bp) <b>USA_CDC</b>  N3_USA_CDC (Amplicon length – 72bp) <b>USA_CDC</b> <a href="https://www.who.int/docs/default-source/coronaviruse/uscdcr-pcr-panel-primer-probes.pdf">https://www.who.int/docs/default-source/coronaviruse/uscdcr-pcr-panel-primer-probes.pdf</a>	Chongqing_YC01 (EPI_ISL_408478) – C>T  Shandong_IVDC_SD_001 (EPI_ISL_408482) – T>C Shenzhen_SZTH_004 (EPI_ISL_406595) – C>T Canada_BC_37_0_2 (EPI_ISL_412965) – T>C Australia_NSW05 (EPI_ISL_412975) – T>C Wuhan_HBCDC_HB05_2020 (EPI_ISL_412981) – T>C Australia_NSW06 (EPI_ISL_413213) – T>C Australia_NSW07 (EPI_ISL_413214) – T>C NewZealand_01 (EPI_ISL_413490) – T>C

We gratefully acknowledge the Authors from  
Originating and Submitting laboratories of  
sequence data on which the analysis is based.

by BII/GIS, A\*STAR Singapore





# Receptor binding surveillance for current 202 full genome sequences

No mutation near the binding interface so far

Green ... ACE2 human host receptor

Gray ... CoV spike glycoprotein

Blue ... Spike glycoprotein variation

Red ... Spike glycoprotein variation near host receptor



We gratefully acknowledge the Authors from Originating and Submitting laboratories of sequence data on which the analysis is based.

Spike glycoprotein variation in structure  
(nearest residue if in loop region/termini)

F32I H49Y S247R(249) N354D D364Y V367F D614G V1129L  
E1262G(1258) P1143L S221W F797C L249S L752F V615L  
S939F K202N H655Y (USA\_WA8) S254F (Germany NRW-01)

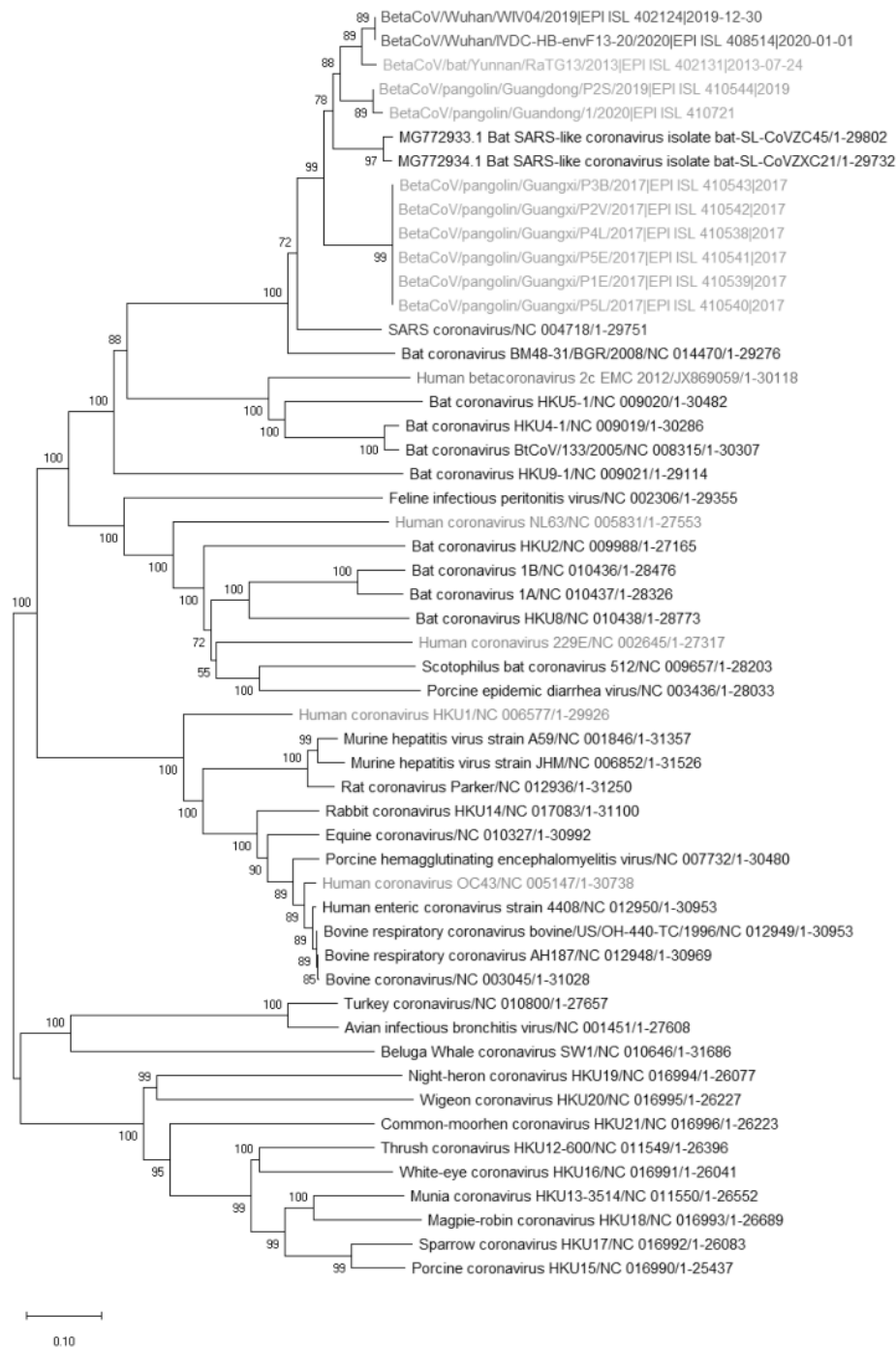
Numbering relative to start codon 21563 in  
hCoV-19/Wuhan/WIV04/2019

# Summary

First Characterization

by BII, A\*STAR Singapore





## Full genome tree of all CoV families

- Nearest bat precursor RaTG13
- Nearest pangolin precursors from Guangdong
- Several pangolin-derived sequences part of recent family of related viruses

### Genome identity to hCoV-19:

- 96% RaTG13 (nearest bat precursor)
- 90% Guangdong1/P2S (nearest pangolin precursor)
- 88% ZC45/ZXC21 bat precursor
- 80% SARS

Orange ... bat RaTG13  
 Red ... hCoV-19 2019-2020  
 Cyan ... pangolin CoV  
 Blue ... SARS CoV  
 Purple ... MERS CoV  
 Green ... common cold CoV

We gratefully acknowledge  
 the Authors from Originating  
 and Submitting laboratories  
 of sequence data on which  
 the analysis is based.

Phylogenetic tree of Wuhan CoV full genome sequences in context of  
 representatives of all CoV families (whole genome Neighbor Joining,  
 Maximum Composite Likelihood, uniform rates, 500 bootstrap, MegaX)



by BII, A\*STAR Singapore

# Spike host receptor changes for nearest bat and nearest pangolin sequences

Strain 1	Strain 2	Spike overall identity	Interface mutations
Human Wuhan	Bat Yunnan	98%	13
Pangolin Guangdong	Bat Yunnan	90%	13
Pangolin Guangdong	Human Wuhan	91%	1



Select Query Sequence & Reference Sequence to display on 3D Structure Viewer:

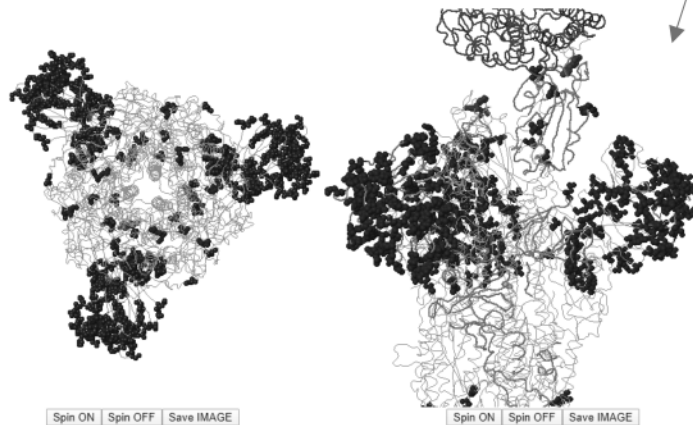
Query Sequence: Spike 2019nCoV\_Wuhan\_WIV04\_2019 Reference Sequence: BetaCoV-2019nCoV-like/bat/Yunnan/RaTG13/2013

% AA identity: 97.636% # mutations: 30

List of variations displayed in structure (nearest residue if in loop/termini region):

S32F L50S I76T(I) P218Q D324E T346S T372A T403R K430N H440N H441L A443S E445V F449Y A459S K478T Q483V T484E L486F Y490F Y493Q R494S Y498Q D501N H505Y N519H A604T met608P(HA)(S74,608) S1121N

List of mutations not displayed in structure: I1224V(C-term)



Select Query Sequence & Reference Sequence to display on 3D Structure Viewer:

Query Sequence: BetaCoV/pangolin/Guangdong/1/2019/EPI\_ISL\_410721/2019 Reference Sequence: BetaCoV-2019nCoV/Wuhan/WIV04/2019

% AA identity: 91.280% # mutations: 111

List of variations displayed in structure (nearest residue if in loop/termini region):

S12N T29G T22A Q23A L24H P25Q A27S Y28F F32S T33Q K41T V42I S46N V47T H49V S50L T51S D53G L54Y F59Y T63S F65Y H66Y H68L G72T(G) I76E(I) F79V P85D N87K V90I S94A H101V S112N K113T T144S V127I E132N N137Y F140Y G142S V143G S161T M163S E164T S165R R168A A163Y N164A Q173K P174S L176M M177L L178I E180A Q183S N185L K187D N188T K195G I197V H207Y I210V L212V V213N R214S D215N Q218I D228E L229H I231A R237K Q239R A243T L244I Y445D(Q40) T250M S255N S260N A260V Q261Y A262S Q271A L270M K270N T280A F300L S340T A372T H62X K417R Q450H H519N K529Q N556S R634S A688S S691A S708A T747I A1070S A1078T D1084E

List of mutations not displayed in structure: M1L(N-term) V3F(N-term) L5F(N-term) V6L(N-term) L7H(N-term) L8F(N-term) P9A(N-term) N1125S(C-term) V1228H(C-term)

Select Query Sequence & Reference Sequence to display on 3D Structure Viewer:

Query Sequence: BetaCoV/pangolin/Guangdong/1/2019/EPI\_ISL\_410721/2019 Reference Sequence: BetaCoV-2019nCoV-like/bat/Yunnan/RaTG13/2013

% AA identity: 90.307% # mutations: 123

List of variations displayed in structure (nearest residue if in loop/termini region):

S12N T29G T22A Q23A L24H P25Q A27S Y28F T33Q K41T V42I S46N V47T H49V T51S D53G L54Y F59Y T63S F65Y H66Y H68L G72T(G) I76E(I) F79V P85D N87K V90I S94A H101V S112N K113T T144S V127I E132N N137Y F140Y G142S V143G S161T M163S E164T S165R R168A A163Y N164A Q173K P174S L176M M177L L178I E180A Q183S N185L K187D N188T K195R I197V H207Y I210V L212V V213N R214S D215N P218Q D228E L229H I231A R237K Q239R A243T L244I Y445D(Q40) T250M S255N S260N A260V Q261Y A262S Q271A L270M K270N T280A F300L S340T A372T H62X K417R Q450H H519N K529Q N556S R634S A688S S691A S708A T747I A1070S A1078T D1084E

List of mutations not displayed in structure: M1L(N-term) V3F(N-term) L5F(N-term) V6L(N-term) L7H(N-term) L8F(N-term) P9A(N-term)

by BII, A\*STAR Singapore



# Host receptor binding site differences between SARS, bat precursor (RaTG13) and human outbreak hCoV-19

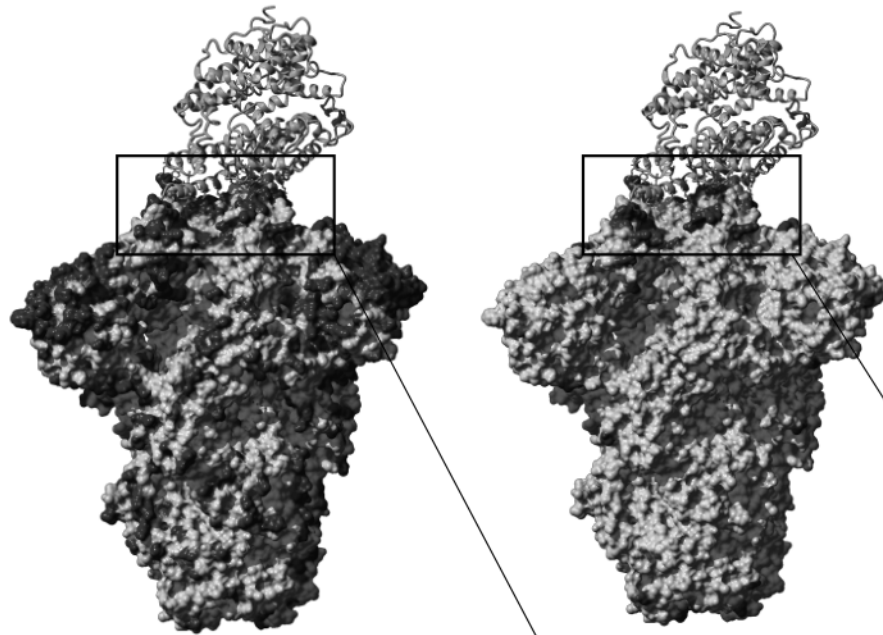
## Additional Analysis for RaTG13 sequence from Zhengli Shi's lab

CAS Key Laboratory of Special Pathogens,  
Wuhan Institute of Virology

Cyan ... ACE2 human host receptor

Gray ... CoV spike glycoprotein

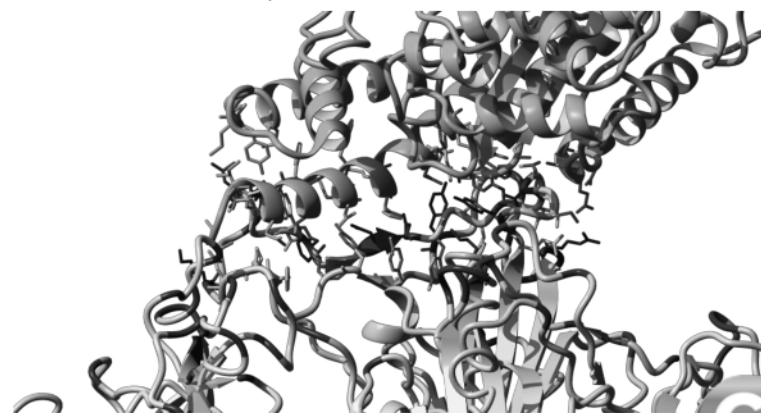
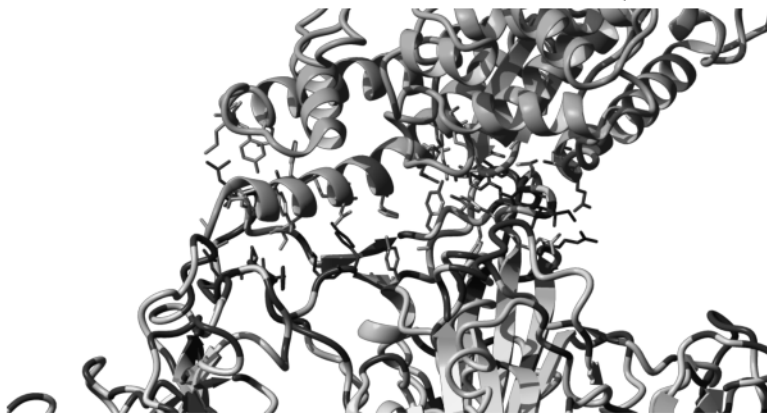
Red ... mutations between either SARS (left side) or bat precursor RaTG13 (right side) vs human outbreak WIV04 CoV



SARS vs hCoV-19

RaTG13 vs hCoV-19

- Surface proteins are 76% and 98% identical, respectively
- Antigenic surface highly divergent compared to SARS
- Bat precursor differences in receptor binding interface indicative of changes that allowed host switch



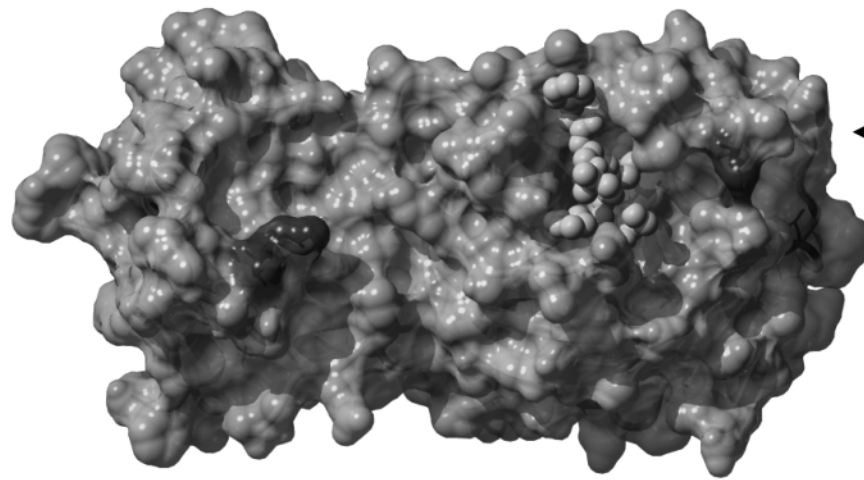
We gratefully acknowledge the Authors from Originating and Submitting laboratories of sequence data on which the analysis is based.

by BII, A\*STAR Singapore



# Potential drug targets highly conserved between hCoV-19 and SARS

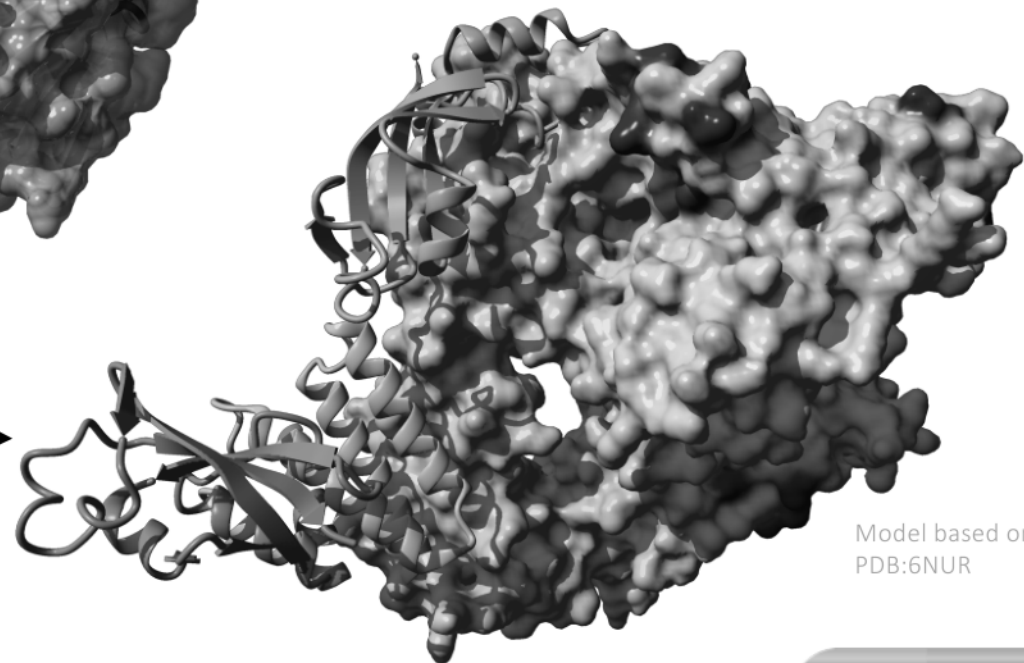
- Both, the main protease and polymerase which are potential drug targets are highly conserved between hCoV-19 and SARS with 96% and 97% overall identity, respectively
- Inhibitors developed against the SARS-CoV main protease or polymerase have good potential to bind similarly to hCoV-19



Model based on PDB:3TNT

## Main protease hCoV-19 vs SARS

Red ... consensus differences (surface mutations)  
Yellow ... substrate analogue/inhibitor



Model based on  
PDB:6NUR

## Polymerase hCoV-19 vs SARS

nsp12 (gray=identical, red=mutated)  
complex with nsp7 (yellow) and nsp8  
(cyan, green)

We gratefully acknowledge the Authors from Originating and Submitting laboratories of sequence data on which the analysis is based.

by BII, A\*STAR Singapore

